	NX-5400 *01 type* *Programming* *Manual*	Uniwell
		Apr. 6.2005

CAUTION!

When the control key position is LOCK, the display is off and keyboard is disabled but the ECR's power is still **ON**. So that before you open the upper case, make sure that the AC cord is disconnected. Especially when you replace the ROM, it must be disconnected, otherwise the ECR will be damaged.

CONTENTS OF PROGRAMMING MANUAL

BEFORE INSTALLATION **1**

INTRODUCTION **2**

SPECIFICATIONS **3**
- **SYSTEM CONFIGURATION** **4**
- **NO RAM CHIP EXPANSION** **5**
- **SET-UP OF PERIPHERALS** **5**

I. STANDARD KEY LAYOUT **6**

II. PROGRAMMING **8**
- **KEYBOARD PROGRAMMING** **8**
  - (PGM-101) KEY LAYOUT 8
- **PLU & GROUP PROGRAMMING** **11**
  - User Friendly PLU Program 12
  - (PGM-201/4201) PLU CODE 13
  - (PGM-203/4203) PLU LINK TO GROUP 14
  - (PGM-305/4305) PLU PRICE 15
  - (PGM-320/4320) PLU HALO (High Amount Lock-Out) 16
  - (PGM-200/4200) PLU FUNCTION 17
  - (PGM-5302) PLU NAME & PRICE 19
  - (PGM-204) PLU LINK TO ONE PLU 20
  - (PGM-209/4209) PLU LINK TO SUPPLEMENTARY MESSAGE 20
  - (PGM-223/4223) GROUP-A LINK TO MAIN GROUP-A 21
  - (PGM-109) PLU MODIFIER 21
  - (PGM-111) MENU LAYOUT 22
  - (PGM-4111) MENU LAYOUT COPY PROCEDURE 22
  - (PGM-406) PLU STOCK 23
  - (PGM-426) GROUP-A STOCK 23
  - (PGM-5201) COMPLETE PLU PROGRAMMING 24
- **CHARACTER PROGRAMMING** **25**
  - Character Code Table 26
  - Programmable 94 Characters 26
  - How to Preset Characters 27
  - Character Programming Sequence 29
  - (PGM-212) CASHIER 29
  - (PGM-202) PLU 29
  - (PGM-102) KEY/SYMBOL 29
  - (PGM-242) MAIN GROUP-A 29
  - (PGM-222) GROUP-A 29
  - (PGM-232) GROUP-B 29
  - (PGM-112) STOCK UNIT 29
  - (PGM-142) SUPPLEMENTARY MESSAGE 29
  - (PGM-122) RECEIPT LOGO 29
  - (PGM-152) ECR NAME/KITCHEN PRINTER NAME 29
  - (PGM-162) SLIP LOGO 29
- **RATE PROGRAMMING** **32**
  - (PGM-337) PERCENTAGE RATE 32
  - (PGM-347) ADJUSTMENT RATE 33
  - (PGM-357) SALES COMMISSION RATE 33
  - (PGM-367) STOCK RATE 33
  - (PGM-377) CHEQUE-CASHING CHARGE RATE 33
  - CURRENCY EXCHANGE CHARGE RATE 33
  - (PGM-107) TAX RATE 33
  - (PGM-108) TAX EXEMPTION LIMIT FOR % TAX 34
  - TAX TABLE FOR ADD-ON TAX SYSTEM 34
  - (PGM-387) FOREIGN CURRENCY EXCHANGE RATE 35
  - (PGM-397) EURO CURRENCY RATE [SF-13.e=1] 35
- **CASHIER PROGRAMMING** **36**
  - (PGM-211) SECRET CASHIER CODE 36

MISCELLANEOUS PROGRAMMING **37**
(PGM-131) Z1-REPORT SECRET CODE 37
(PGM-141) Z2-REPORT SECRET CODE 37
(PGM-151) TRAINING SECRET CODE 37
(PGM-171) MACHINE NUMBER 37
(PGM-179) SLIP PRINTER ID # FOR TP-620 37
(PGM-325) + / - AMOUNT 37
(PGM-172) TERMINAL ADDRESS 38
(PGM-315) PRESET TENDER AMOUNT 38
(PGM-121) ARRANGEMENT KEY SEQUENCE 39
(PGM-189) CHEQUE PRINTING FORMAT 40
TIME & DATE PROGRAMMING **43**
(PGM-1) DATE 43
(PGM-2) TIME 43
SYSTEM PROGRAMMING **44**
(PGM-100) SYSTEM FUNCTION 44
PROGRAMMING REFERENCE **70**

IV. REPORTS **74**
REPORT SEQUENCE **74**
IRC REPORT SEQUENCE **76**
PROGRAM DUMP CONTENTS **77**

V. SERVICE PROGRAMMING **80**
INITIAL RESET **80**
TEST PROGRAMS **81**
RAM TEST 81
ROM TEST 81
PLU DATA ERASE 81
HARDWARE TEST 81
TEST PRINT 82
AUTO PRESET **83**
IRC PROGRAM DATA TRANSFER **85**

VI. WARNING MESSAGES **86**

CONTENTS OF INTERFACES & PERIPHERALS MANUAL

(This manual is independent from the programming manual.)

I. INTERFACE INFORMATION

II. IRC SYSTEM

III. PERIPHERALS

1. TP-420/422/522/722 (Kitchen Printer, connected to ch-A)
2. TP-620 (Slip Printer, connected to ch-A)
3. SCANNER

IV. PC COMMUNICATION

1. BATCH COMMUNICATION
2. PROGRAM LOADER (PLM 2000)

V. ECR TO ECR RAM DATA TRANSFER

VI. JOURNAL DATA TRANSFER

VII. CABLE CONNECTION

1. CHANNEL A --- IRC LINE
2. CHANNEL B
    1) ECR --- PC
    2) ECR --- AUTO ANSWER MODEM (to AUTO DIAL MODEM --- PC)
    3) ECR --- HANDY SCANNER
    4) ECR --- FLAT BED SCANNER
    5) ECR --- ECR FOR RAM DATA TRANSFER
    6) ECR --- PERIPHERAL FOR JOURNAL DATA TRANSFER

BEFORE INSTALLATION

1. Power Supply

Use specified power supply. Do not connect with other machines which may cause electricity line noise.

2. Battery Charge

A battery is installed in ECR in order to maintain registration and programming contents for about 3 months. If it has been discharged during transportation, the battery should be recharged before use. (Just plug in ECR and leave it for one day.) Then, perform Auto Preset sequence. Refer to the section V, "Service Programming" (page 83).

3. Place of Installation

ECR should not be installed in extremely hot or cold environments, places exposed to direct sunlight for extended period of time, or places where ECR may come into direct contact with excessive dust or liquid.

4. Installation of IRC Line

All terminals should be connected to AC power supplies placed on the same ground level. If some of the terminals are connected to other AC line, electric potential difference on the ground line will damage the interface boards and cause a communication error.

Termination resistors should be attached as described in the Interfaces & Peripherals manual so that the communication error may be solved. The shielded cable must be used for IRC line.
Do not connect/disconnect the cable while ECR's power is "ON".

INTRODUCTION

This ECR is entry machine for general retail/hospitality market, featuring every basic necessary function, even with the potentiality of Inter Register Communication, worthy of the word "High Cost Performance", and so on as follows:

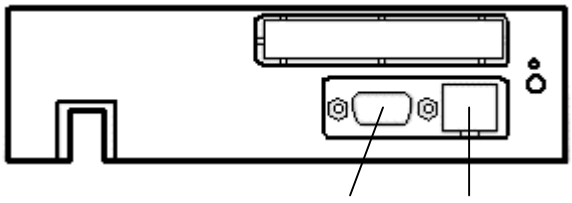
Major Features

- Standard (max.) 4480 PLUs
- 98 group-As, 25 group-Bs and 10 main group-As
- 23 cashiers and 15 hard cashier keys
- 1820 amount tracks
- Simple Condiment PLU entry with a main PLU
- 2 PLU price shift
- 2 PLU menu shift keys allow use of 3 menus
- 3 PLU modifier keys
- 8 stock calculation constants make inventory easy and exact
- 4 PLU commission rates
- Single ticket / combined ticket
- Euro 2002 Function
- 5 Media keys including foreign currency media
- 4 Arrangement Keys (50 key steps)
- Other available keys: tip, recall, adjustment, cooking message, etc.
- PC Batch Communication, Programming Module PLM 2000
- IRC (Inter Register Communication): total 32 units
    - 32 ECRs including master ECR
    - 4 kitchen printers TP-420/422/522/722
    - 4 slip printers TP-620
    - PC communications with Tensai2000

SPECIFICATIONS

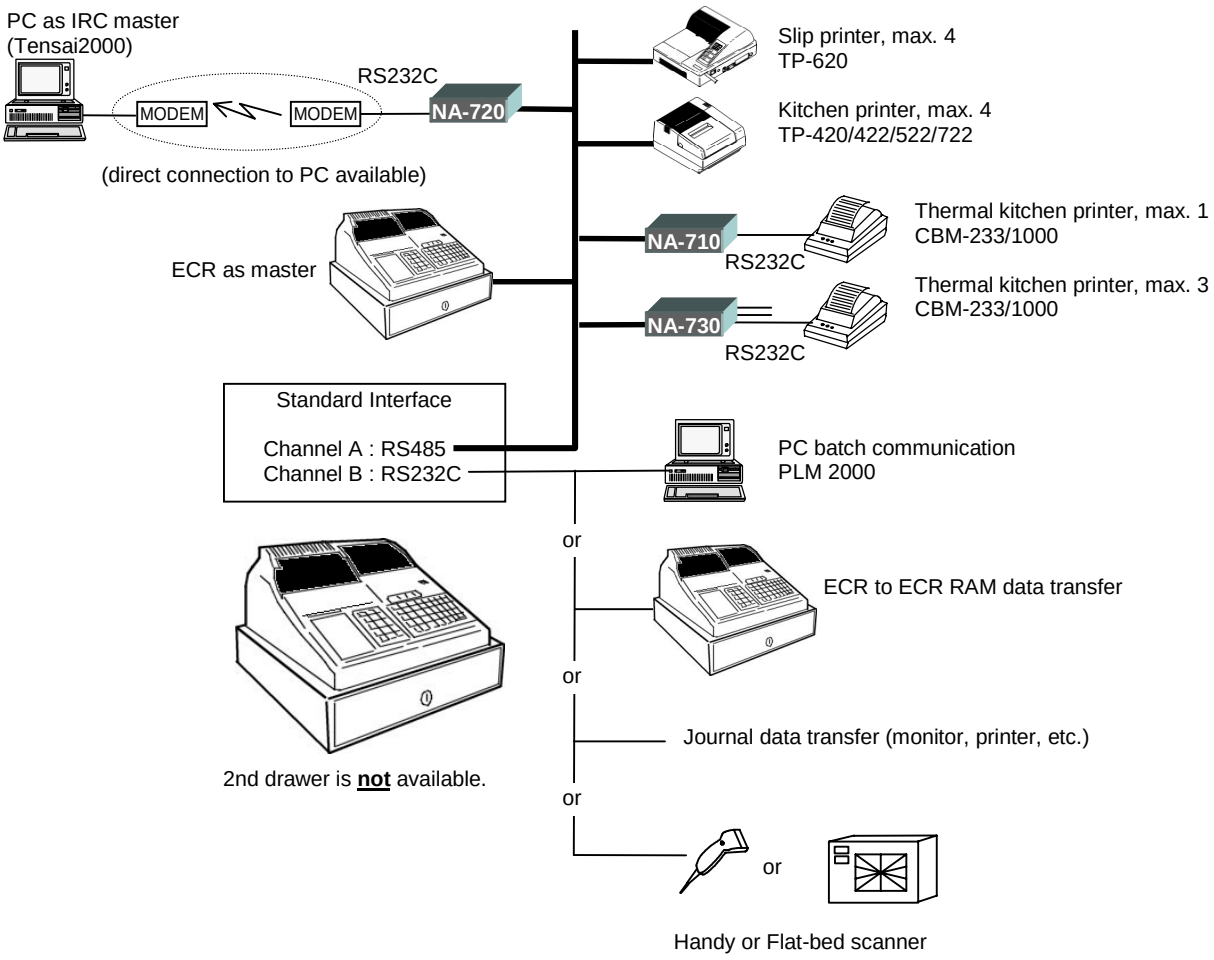
PRINTER	Printer model	Epson M-U420 impact dot matrix **without** an auto cutter
	Printing speed	3.0 lines/sec
	Columns/line receipt journal validation	 24 columns 24 columns 55 columns
	Paper	Fine quality paper roll 44.5 mm x ø83 mm Validation paper 135 to 210 mm (width), min. 70 mm (height), 0.07 to 0.14 mm (thickness)
	Ink ribbon	ERC-32 (Epson), purple
KEYBOARD	Stroke key	64 key positions including 5 optional keys
	Flat key	128 key positions
DISPLAY	Front (1-line)	12 digits numeric
	Rear (1-line)	12 digits numeric (standard)
POWER SUPPLY		AC 117V / 230V ± 10%, 50/60Hz
POWER CONSUMPTION		400mA (117V) / 200mA (230V)
TEMPERATURE		Operation : 0° ~ 40°C (32° ~ 104°F) Storage : -10° ~ 50°C (14° ~ 122°F)
DIMENSIONS		405 (W) x 423 (D) x 285 (H) mm including drawer
DRAWER		405 (W) x 423 (D) x 98 (H) + 14 mm for a foot 10C4B / 10C5B (removable/adjustable coin tray)
WEIGHT		Approx. 12 Kg
RAM CAPACITY		One 4M bit RAM (RAM expansion is not available.)
MEMORY PROTECTION		3 months

	CHANNEL		**Used for**
STANDARD INTERFACE	A	RS485	IRC : up to 32 units including an ECR master or PC as IRC master (Tensai2000) via NA-720 4 kitchen printer -- one of kitchen printer can be used as a slip printer TP-420 : Epson M267 shuttle impact dot matrix printer without auto cutter TP-422 : Epson M267 shuttle impact dot matrix printer with auto cutter TP-522 : high speed impact dot matrix printer with auto cutter TP-722 : Citizen LT-388 thermal printer with auto cutter CBM-233/1000 : thermal printer with auto cutter (connected via NA-710/730) 4 slip printers TP-620 : Epson M290 impact dot matrix printer Network Adapters NA-710/730 for 1 or 3 thermal kitchen printer(s) NA-720 for PC as IRC master or for Modem to PC
	B	RS232C	One of : - PC batch communication - ECR to ECR RAM data transfer - Journal data transfer - Scanner



SYSTEM CONFIGURATION

Maximum 32 units can be connected via IRC line including the master, max. 4 kitchen printers and max. 4 slip printers. However, an ECR can use one slip printer.



NO RAM CHIP EXPANSION

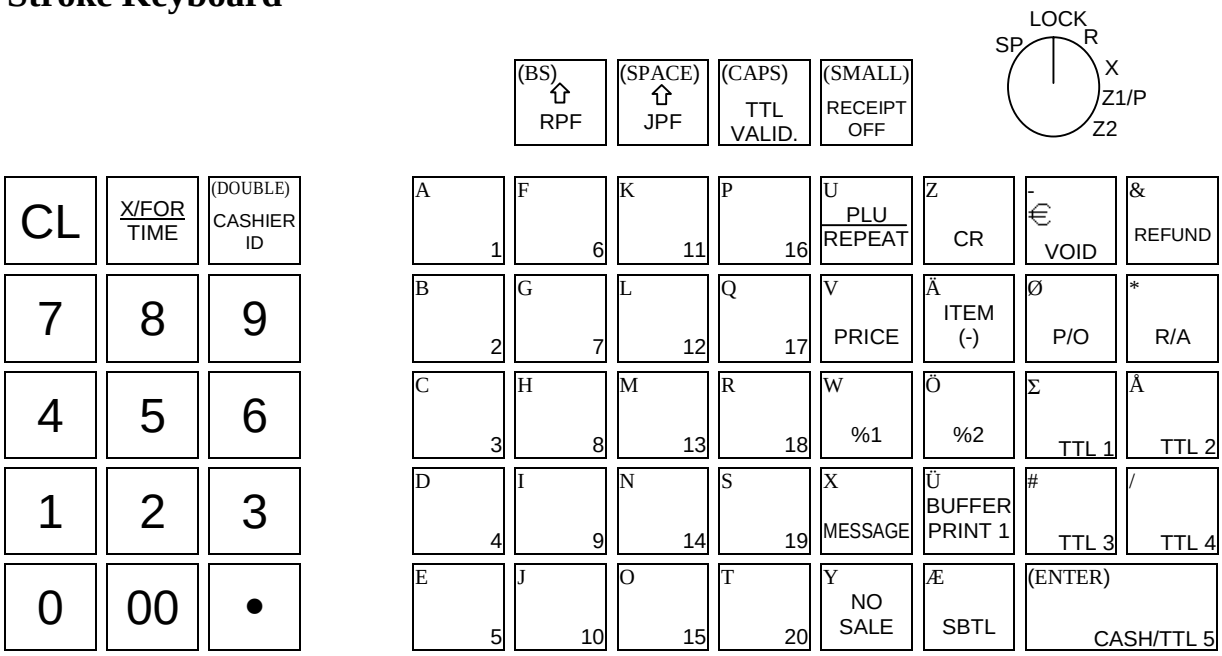
RAM chip expansion is not available.
Standard one 4M bit RAM chip has been installed on the back side of MPU board.

SET-UP OF PERIPHERALS

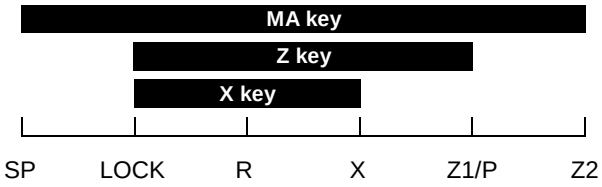
Please refer to the separate manual "INTERFACES & PERIPHERALS MANUAL" .

I. STANDARD KEY LAYOUT

Stroke Keyboard



Control key position range:
There are three standard control keys (MA, Z, X).



Flat Keyboard

												⇧ RPF	⇧ JPF	RECEIPT OFF	BUFFER PRINT 1	TTL VALID.	MISC VALID.	LOCK SP R X Z1/P Z2	
												(-)	% 1	% 2	% 3	ADJUST 1	ADJUST 2		
												MENU SHIFT 1	MENU SHIFT 2	COOKING MESSAGE	MESSAGE 1	ARRANGE 1	ARRANGE 2	VOID	P/O
												PLU MODIFY 1	PLU MODIFY 2	PLU MODIFY 3	PLU / REPEAT	PRICE	PRICE SHIFT	REFUND	R/A
1 1	@ 2 6	# 3 11	$ 4 16	% 5 21	Æ 6 26	& 7 31	* 8 36	£ 9 41	Ñ 0 46	€ - 51	Σ 56	61	66	71	CL	X/FOR / TIME	CASHIER ID	CR	TTL 1
Q 2	W 7	E 12	R 17	T 22	Y 27	U 32	I 37	O 42	P 47	Ö Ä 52	Ü 57	62	67	72	7	8	9	RECALL	TTL 2
A 3	S 8	D 13	F 18	G 23	H 28	J 33	K 38	L 43	: Ø 48	, 53	← 58	63	68	73	4	5	6	TRACK / NEW BAL.	TTL 3
 4	Z 9	X 14	C 19	V 24	B 29	N 34	M 39	< Å 44	> . 49	? / 54	(BS) 59	64	69	74	1	2	3	NO SALE	TTL 4
↑ 5	↓ 10	 15	(SPACE) 20	(SPACE) 25	→ 30	 35	(DBL) 40	 45	(CL) 50	 55	(ENTER) 60	65	70	75	0	00	•	SBTL	CASH / TTL 5

II. PROGRAMMING

KEYBOARD PROGRAMMING

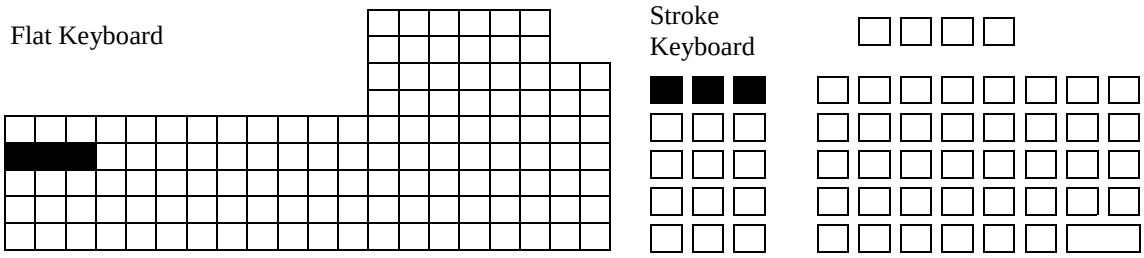
(PGM-101) KEY LAYOUT

If you want to change the keyboard position from standard keyboard layout, use **Key Layout Programming** sequence below. Before performing the sequence, confirm that the programmable key table **[C1]** or **[F1]** has already been selected by **Key Table Selection** as follows (refer to "") :

Key Table Selection

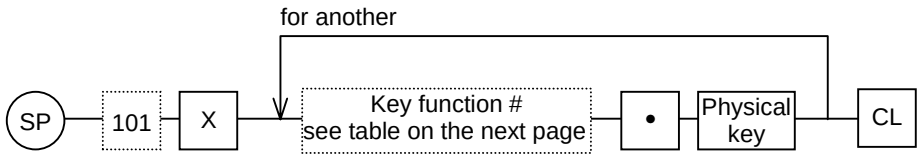
1. **Disconnect the AC cord** and turn the control key to SP position.

2. While pressing the following three keys at the same time, connect the AC cord.



3. Select **[C1]** for stroke keyboard or **[F1]** for flat keyboard.
   Repeat this operation to toggle.

Key Layout Programming



Note: For key function #, [•] key and **CL** key, use the shaded keys in page 10.

Key Function #	Contents	Key Function #	Contents
0	not used key	174	BUFFER PRINT 1
1 ~ 127	HARD PLU 1 ~ 127	175	BUFFER PRINT 2
128	TRACK / NEW BALANCE	176	NET SUBTOTAL
129	TOTAL 1	177	TOTAL VALIDATION
130	TOTAL 2	178	MISC. VALIDATION
131	TOTAL 3	179	PERSON
132	TOTAL 4	180	NO SALE
133	TOTAL 5 / CASH	181	not used
134	MENU SHIFT 1	182	TIP
135	MENU SHIFT 2	183	HALO RELEASE
136	PLU MODIFIER 1	184	OFF COMPULSORY
137	PLU MODIFIER 2	185	RECALL
138	PLU MODIFIER 3	186	not used
139	CASHIER ID	187	ADJUSTMENT 1
140	CASHIER 1	188	ADJUSTMENT 2
141	CASHIER 2	189	ADJUSTMENT 1 & 2
142	CASHIER 3	190	MESSAGE
143	CASHIER 4	191	COOKING MESSAGE
144	CASHIER 5	192	PREVIOUS BALANCE (+)
145	CASHIER 6	193	PREVIOUS BALANCE (-)
146	CASHIER 7	194	RPF (Receipt Paper Feed)
147	CASHIER 8	195	JPF (Journal Paper Feed)
148	CASHIER 9	196	RECEIPT OFF
149	CASHIER 10	197	not used
150	CASHIER 11	198	not used
151	CASHIER 12	199	not used
152	CASHIER 13	200	CLEAR
153	CASHIER 14	201 ~ 209	TEN-KEY 1 ~ 9
154	CASHIER 15	210	0
155	%1	211	00
156	%2	212	000
157	%3	213	not used
158	AMOUNT (-)	214	not used
159	AMOUNT (+)	215	not used
160	CORRECTION	216	SLIP RELEASE
161	VOID	217	SINGLE TICKET OFF
162	REFUND	218	not used
163	R / A (Received on Account)	219	not used
164	P / O (Paid Out)	220	not used
165	SUBTOTAL	221	DECIMAL POINT (•)
166	PLU / REPEAT	222	X1
167	PRICE	223	X / FOR / TIME
168	PRICE SHIFT	224	ARRANGEMENT 1
169	TAX	225	ARRANGEMENT 2
170	TAX SHIFT 1	226	ARRANGEMENT 3
171	TAX SHIFT 2	227	ARRANGEMENT 4
172	TAX SHIFT 3	228	FOREIGN CURRENCY SUBTOTAL
173	TAX SHIFT 4	229	FOOD STAMP SUBTOTAL

These numbers on the keys are used to indicate key position numbers whereas the key numbers listed in the previous page indicate key function numbers.

Stroke Keyboard

					064	063	062	061			
			option								
060 (CL)	055	050	045	040	035	030	025	020	015	010	005
059 (7)	054 (8)	049 (9)	044	039	034	029	024	019	014	009	004
058 (4)	053 (5)	048 (6)	043	038	033	028	023	018	013	008	003
057 (1)	052 (2)	047 (3)	042	037	032	027	022	017	012	007	002
056 (0)	051 (00)	046 (•)	041	036	031	026	021	016	011	001	

Flat Keyboard

												068	059	050	041	032	023		
												067	058	049	040	031	022		
												066	057	048	039	030	021	014	007
												065	056	047	038	029	020	013	006
128	123	118	113	108	103	098	093	088	083	078	073	064	055	046	037 (CL)	028	019	012	005
127	122	117	112	107	102	097	092	087	082	077	072	063	054	045	036 (7)	027 (8)	018 (9)	011	004
126	121	116	111	106	101	096	091	086	081	076	071	062	053	044	035 (4)	026 (5)	017 (6)	010	003
125	120	115	110	105	100	095	090	085	080	075	070	061	052	043	034 (1)	025 (2)	016 (3)	009	002
124	119	114	109	104	099	094	089	084	079	074	069	060	051	042	033 (0)	024 (00)	015 (•)	008	001

KEY LAYOUT PROGRAM DUMP (Flat Keyboard)

```
X-84
KEY-001-002-003-004-005-
    133 132 131 130 129
```

key position number
key function number

PLU & GROUP PROGRAMMING

PLU & group programming can be performed by one of the following three different ways;

SIMPLE method --- program number entry not required and programs each PLU/group
INDIVIDUAL method --- program number entry required and programs each PLU/group
SEQUENTIAL method --- programs PLUs/groups by a range entering Start # and End #

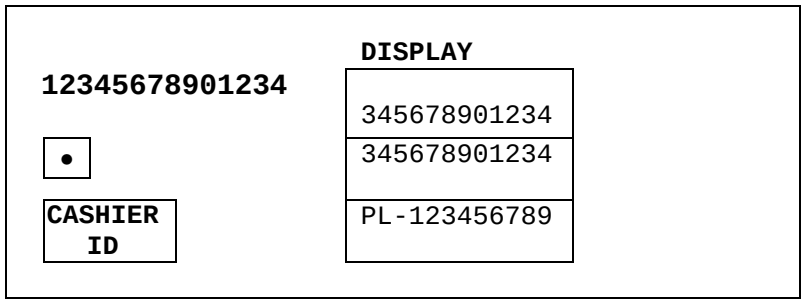
The following three programs must be completed to use PLUs.
For PLU descriptor programming, refer to Character programming. (page 28, 29)

1. **PLU CODE**
2. **PLU LINK TO GROUP-A**
3. **PLU PRICE**

Note for PLU code display

Max. 14 digits of PLU code can be entered in the programming sequences, however, only the last 12 digits can be shown on the display. Press **CASHIER ID** key to check the first 12 digits.

For example, PLU code 12345678901234 is entered in the PLU programming sequence.



User Friendly PLU Program

1) User friendly PLU program in "R" position

User friendly PLU program is easier way of program of Not Found PLU. This operation allows you to make a new PLU having the scanned PLU code if [SF-50.b] is set to 1. All other data than you entered (like "link group-A", "HALO", etc.) is copied automatically from master PLU [PF-3.b=1]. Sales data for this PLU will be registered in the newly created PLU sales memory.

When a Not Found PLU is entered the first time, ECR displays "EE-30: PLU not found" with a catch buzzer. If it is required to register and memorize it on ECR, perform the sequence below:

enter price *1 (can be skipped) --- enter PLU *2 --- EE-30 (PLU not found) --- enter PLU descriptor (can be skipped by [SF-50.c=1]) --- **ENTER** ---

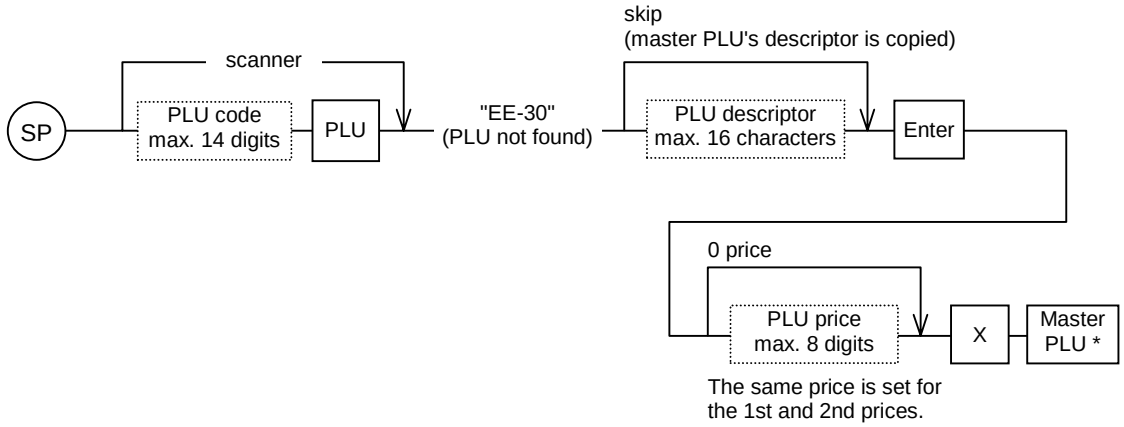
enter price *3 (can be skipped) --- enter master PLU or press **CL** key to cancel

*1 as an overridden price (**not** memorized). PRICE key is required to be pressed for a PLU code entry
*2 enter the PLU code and press PLU key, or scan the PLU, or press H.PLU key whose PLU code has not been assigned
*3 as a preset price (memorized)

Note: When "dE-02: over limitation" is displayed, enter master PLU to register Not Found PLU. However, it will not be created on ECR. Sales data for this PLU will be registered in the master PLU.

2) User friendly PLU program in "SP" position

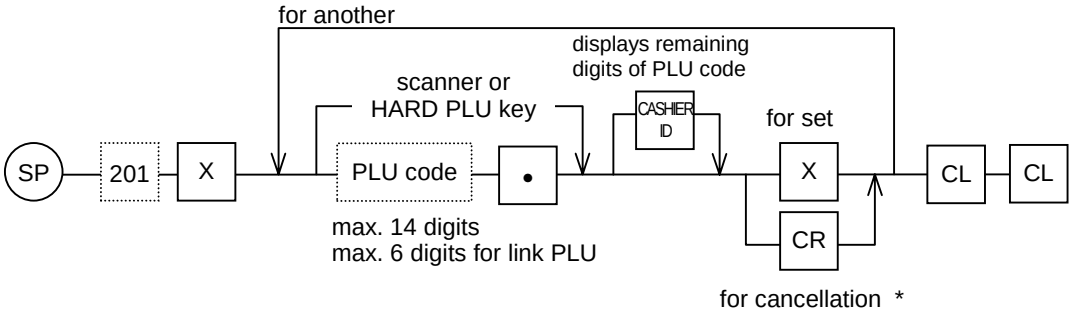
Addition to PLU programming in a transaction (in R position), it can be programmed easily in SP position using a similar method.



* [PF-3.b=1] Master PLU's preset data such as link group-A, flag condition, etc. except for link PLU, price and descriptor will be copied to new created PLU. All PLUs can be entered here by scanner, PLU code or H.PLU key.

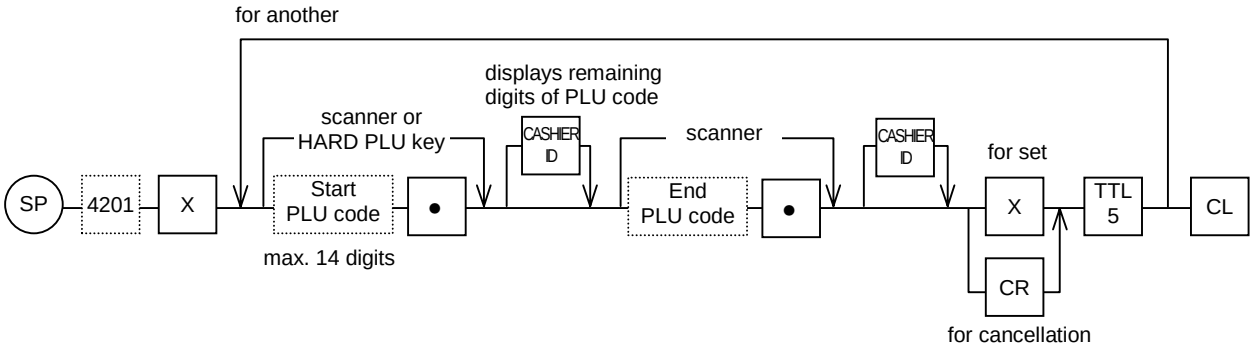
(PGM-201/4201) PLU CODE

**** INDIVIDUAL ****



* PLU having a sales data can not be deleted. Issue PLU Z reports (Z-40~42) in order to clear the sales data.

**** SEQUENTIAL****

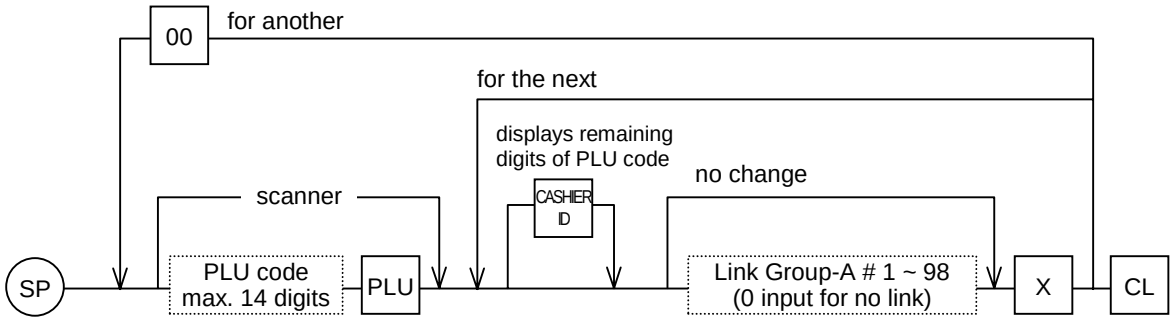


Note 1: If a PLU is already existing between [Start PLU code] and [End PLU code], it will cause an error.
Note 2: For cancellation
- PLU having a sales data can not be deleted. Issue PLU Z reports (Z-40~42) in order to clear the sales data.
- When a PLU code which does not exist is entered for [Start PLU code], it will cause an error. However, for [End PLU code], any code is accepted.

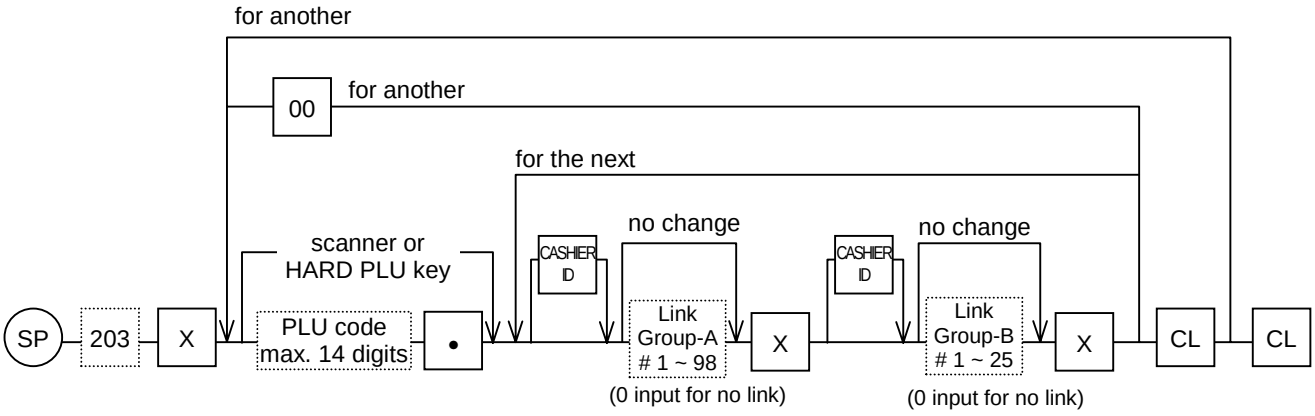
(PGM-203/4203) PLU LINK TO GROUP

Link group-A must be programmed to use PLU. If no link group-A is programmed, PLU can not be used. Link group-B can be skipped.

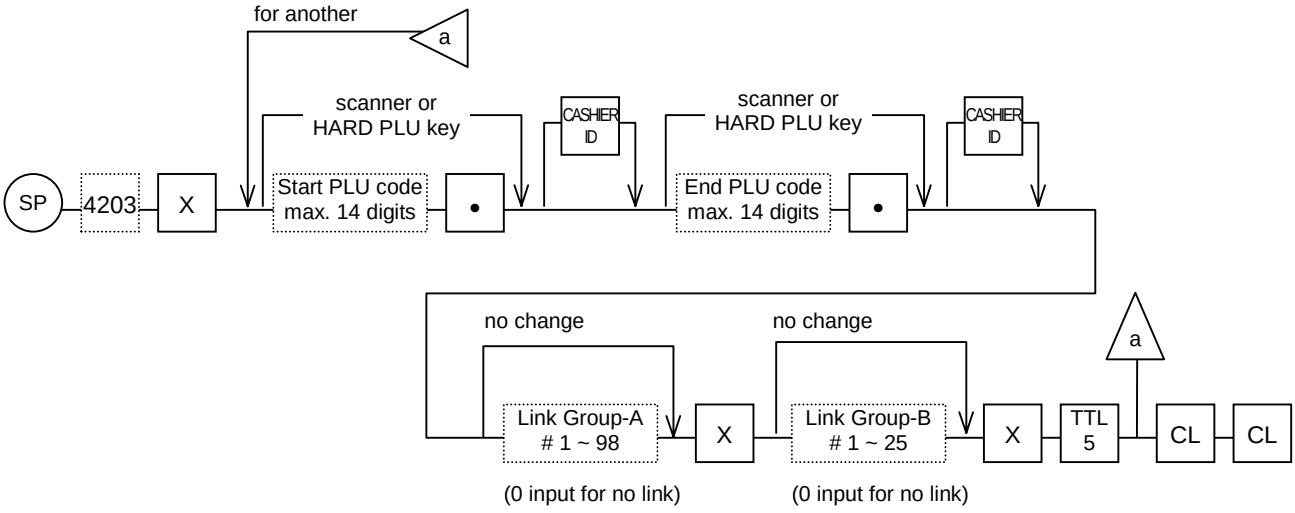
**** SIMPLE ** FOR PLU LINK TO GROUP-A**



**** INDIVIDUAL ****

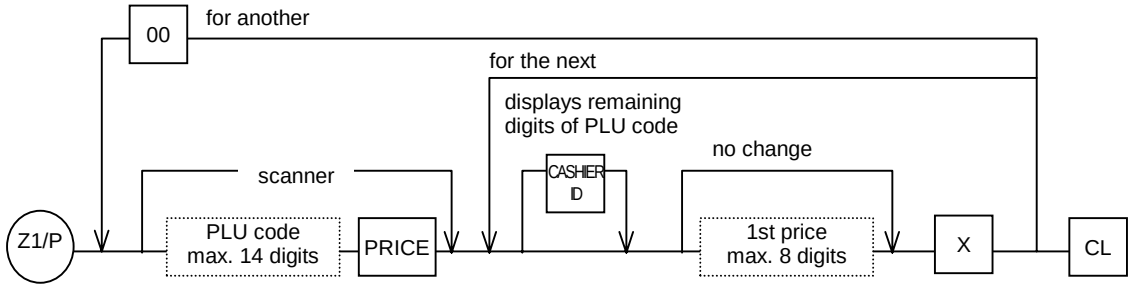


**** SEQUENTIAL ****

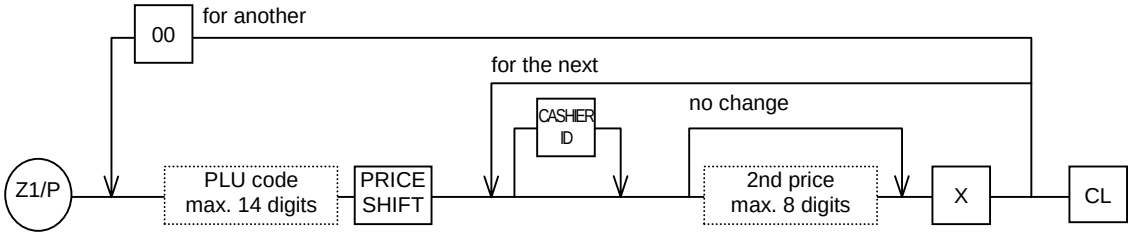


(PGM-305/4305) PLU PRICE

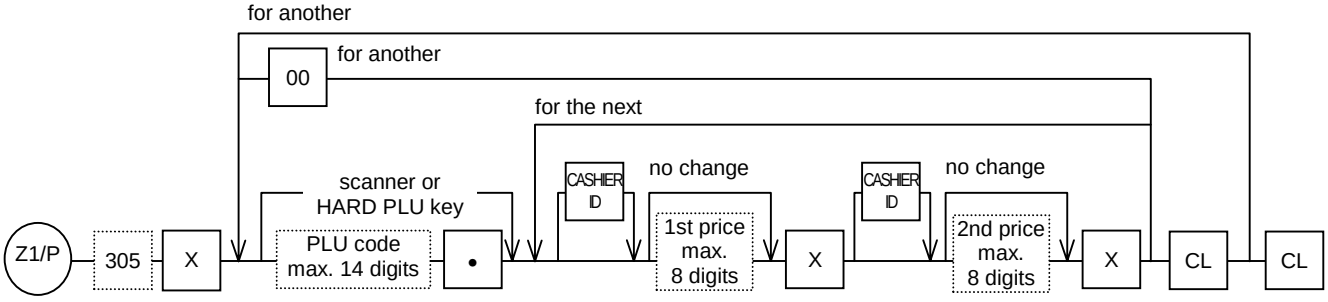
** SIMPLE ** FOR PLU 1ST PRICE



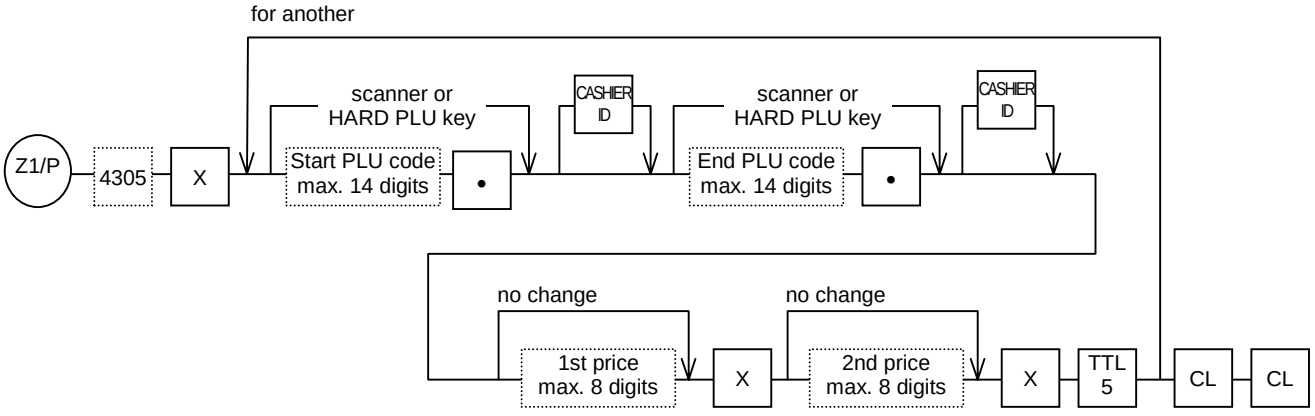
** SIMPLE ** FOR PLU 2ND PRICE



** INDIVIDUAL **



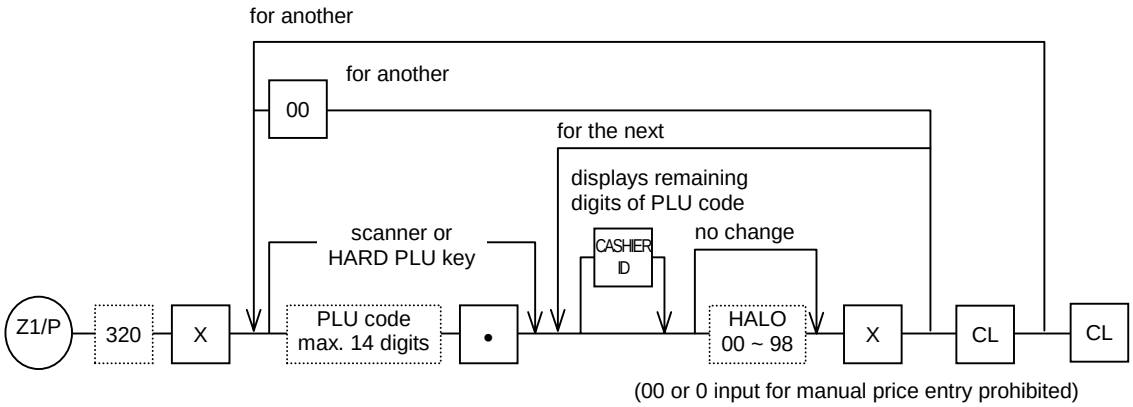
** SEQUENTIAL **



(PGM-320/4320) PLU HALO (High Amount Lock-Out)

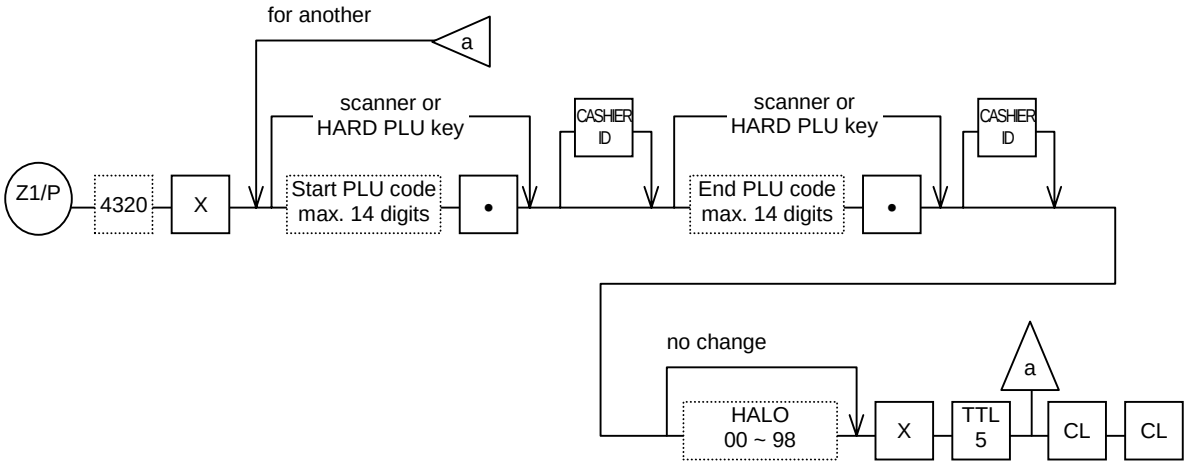
HALO defines the largest PLU price that can be entered manually. For example, when the largest price that can be entered manually is 599, enter 53 (5: value, 3: number of digits).

**** INDIVIDUAL ****



(00 or 0 input for manual price entry prohibited)

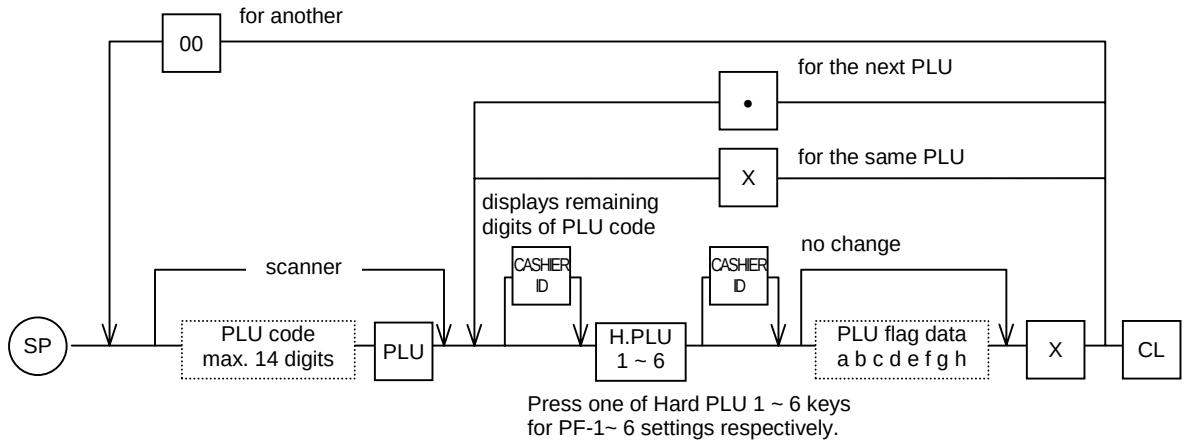
**** SEQUENTIAL ****



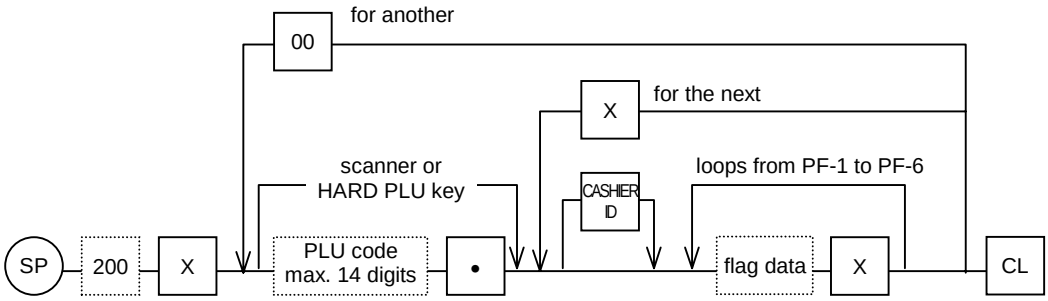
(00 or 0 input for manual price entry prohibited)

(PGM-200/4200) PLU FUNCTION

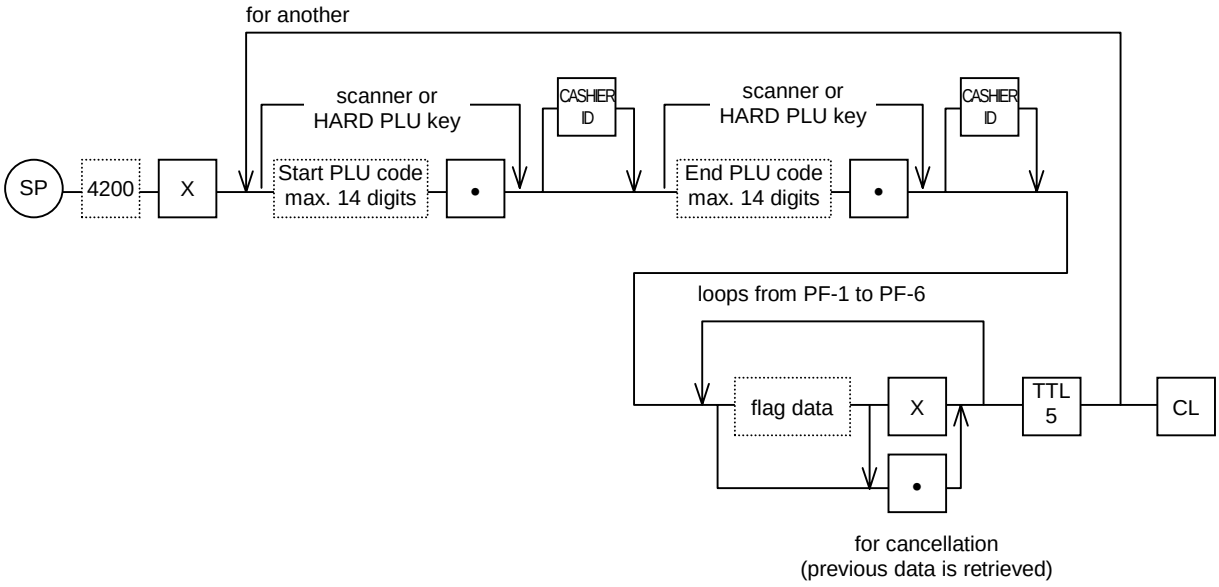
**** SIMPLE ****



**** INDIVIDUAL ****



**** SEQUENTIAL ****



PF-1	1/0	bit	1	0
		a	PLU not printed	printed
		b	Item validation compulsory	not compulsory
		c	Sales type 1 ~ 4 [c,d]	
		d	[00] sales type 1 [01] sales type 2 [10] sales type 3 [11] sales type 4	
		e	Adjustable 2 item	[e,f] = [00] for non-adjustable item
		f	Adjustable 1 item	[11] for Adjustable 1 & 2 item
		g	Single item 2 (transaction closed automatically **[SF-16.f~h]**)	[g,h] = [00] or [11] for non-single item
		h	Single item 1 (transaction not closed when it is entered following a non-single item entry **[SF-16.f~h]**)	

Bits e,f Adjustment amount does not affect PLU sales memory which is shown on the report.

PF-2		a	PLU modifier permitted	prohibited
		b	Stock rate 1 ~ 7 [b,c,d]	
		c	[001] rate #1 [010] rate #2 [011] rate #3 [100] rate #4	
		d	[101] rate #5 [110] rate #6 [111] rate #7 [000] normal quantity	
		e	Taxable 4 item	non taxable item
		f	Taxable 3 item	non taxable item
		g	Taxable 2 item	non taxable item
		h	Taxable 1 item	non taxable item

PF-3		a	Food stamp item	non-food stamp item
		b	This PLU is used as a master PLU for Not Found PLU entry	not used
		c		
		d	Quantity for multiplication 9999 Registrations of split pricing, square entry and multiplication with decimal for this PLU are prohibited.	999.999
		e	Cooking message input compulsory	not compulsory
		f	Single ticket PLU	combined ticket PLU (printed following the last ticket after a transaction is closed)
		g	Zero unit price permitted	prohibited
		h	PLU polarity is negative	positive

PF-4		a	Simple Condiment PLU (S.C. PLU) **[SF-50.a=1]**	normal PLU (main PLU)
		b	Simple Condiment PLU input compulsory for this PLU **[SF-50.a=1], [PF-1.g,h=00/11]** for non-single item	not compulsory
		c		
		d		
		e	PLU data transmitted to KP 4	not transmitted
		f	PLU data transmitted to KP 3	not transmitted
		g	PLU data transmitted to KP 2	not transmitted
		h	PLU data transmitted to KP 1	not transmitted

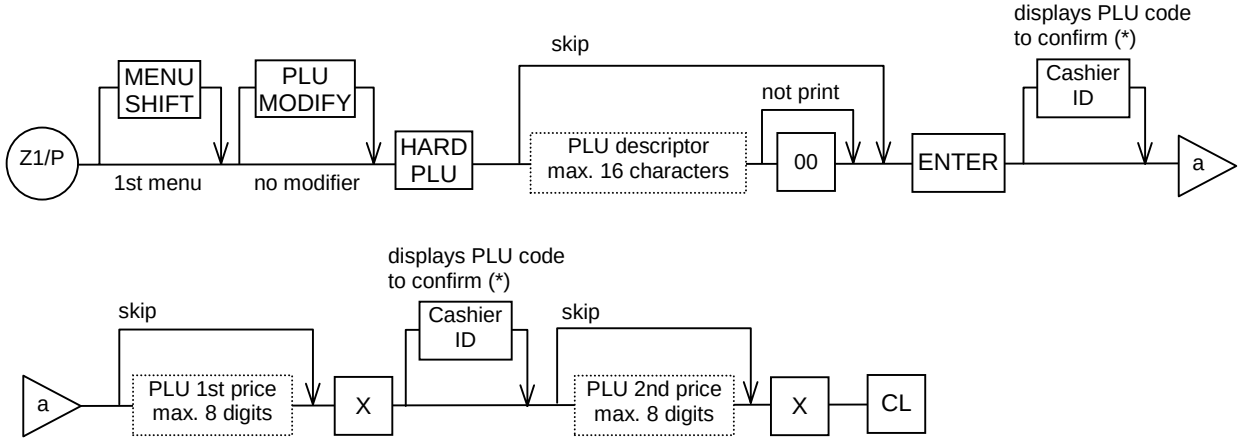
Bit a Simple condiment PLU is a PLU which should be entered with a main PLU.
- It is printed with condiment mark and printed in red or slim for mono-color kitchen printer.
- It is not voided/refunded at the same time when a main PLU is voided/refunded.
- Simple condiment PLU's ticket setting by [PF-3.f] has to be the same as the main PLU's ticket setting. Otherwise, the operation will cause an error.

PF-5, 6 NOT USED

(PGM-5302) PLU NAME & PRICE

Z1/P-5302 accepts PLU code entry, scanner and Hard PLU key while Simple program accepts Hard PLU key only.

***** SIMPLE *** HARD PLU key only (available if [SF-33.a] is selected)**



(*) PLU code display for confirmation by CASHIER ID key

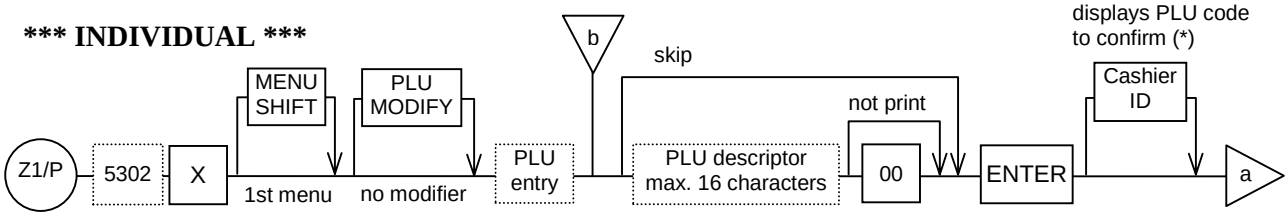
For example, when CASHIER ID key is pressed before 1st price entry for PLU code 1, "PL-1=1P- " will be displayed.
When it is pressed before 2nd price entry, "PL-1=2P- " will be displayed.

If PLU code is more than 11 digits, CASHIER ID key before 1st price entry shows as follows.
For example, PLU code 123456789012:

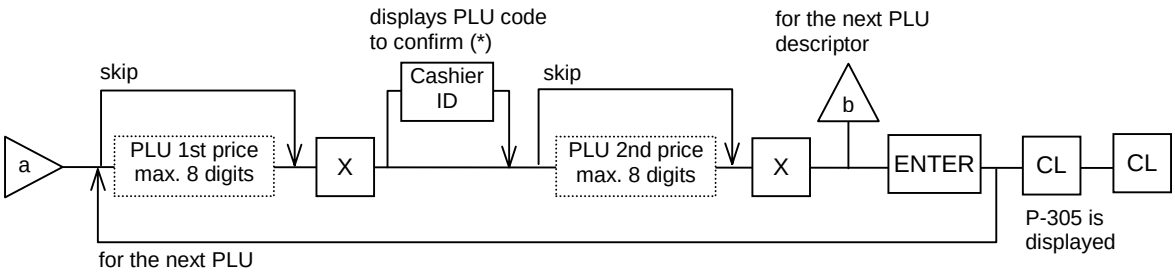
CASHIER ID	23456789012=
CASHIER ID	PL-12456789
CASHIER ID	23456789012=
CASHIER ID	1P-

You can enter 1st price any time during these displays.

***** INDIVIDUAL *****

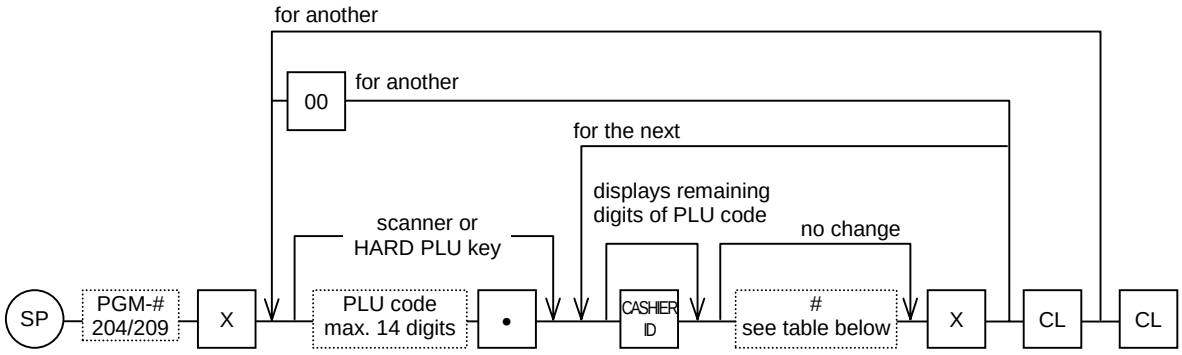


PLU entry: (PLU code)-[•], scanner or HARD PLU key



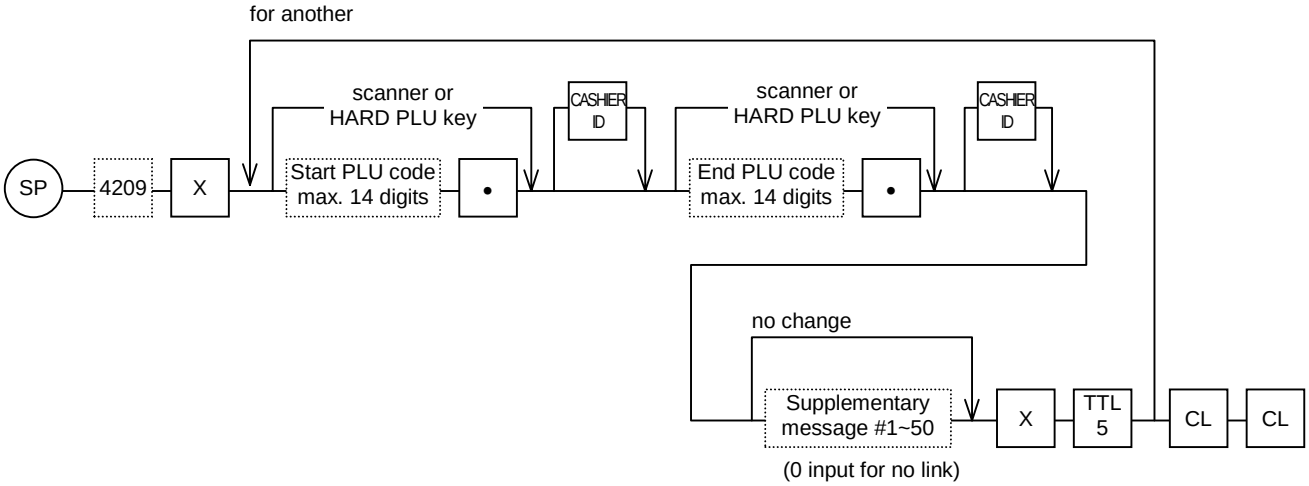
(PGM-204) PLU LINK TO ONE PLU
(PGM-209/4209) PLU LINK TO SUPPLEMENTARY MESSAGE

**** INDIVIDUAL ****



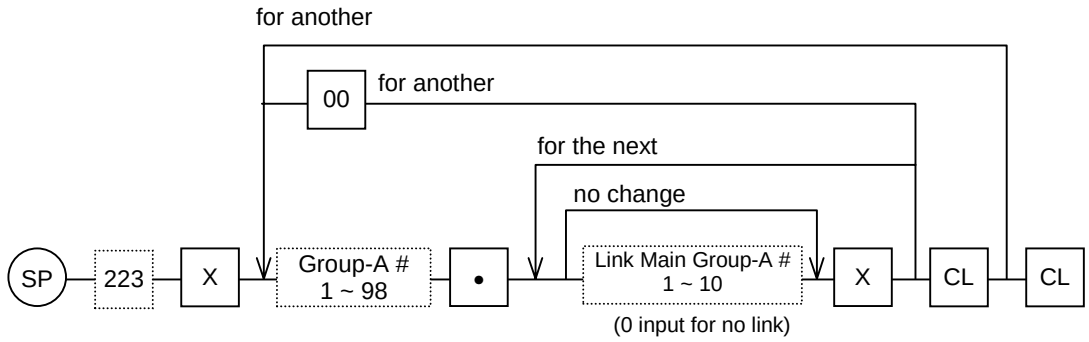
Contents	PGM-#	#	Remarks
PLU link to one PLU	204	link PLU code (6 digits)	0 input for no link
PLU link to supplementary message	209	1 ~ 50	0 input for no link

**** SEQUENTIAL ** FOR PLU LINK TO SUPPLEMENTARY MESSAGE**

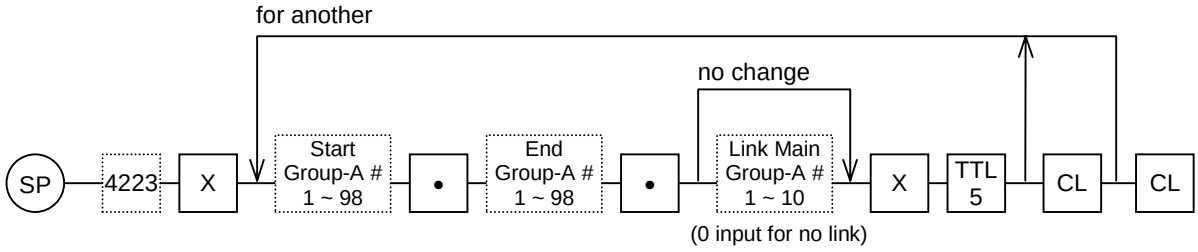


(PGM-223/4223) GROUP-A LINK TO MAIN GROUP-A

**** INDIVIDUAL ****

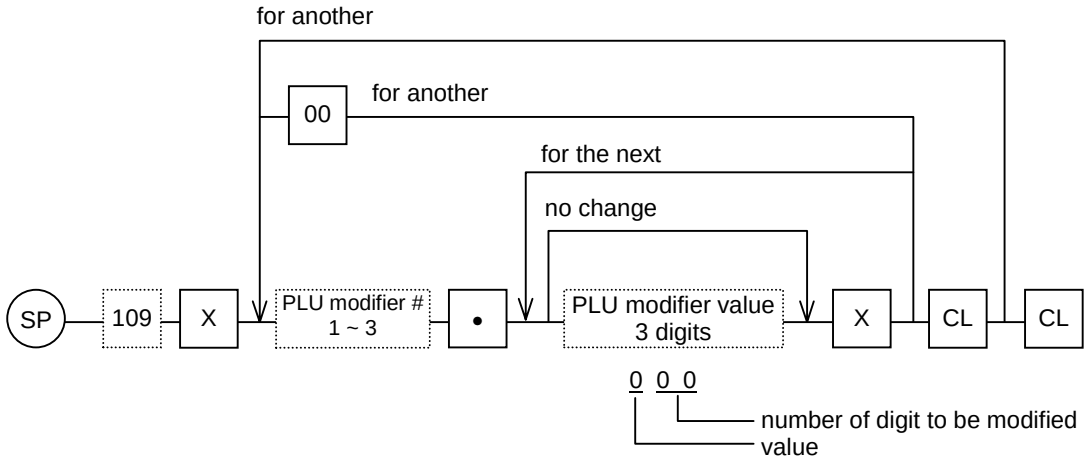


**** SEQUENTIAL ****



(PGM-109) PLU MODIFIER

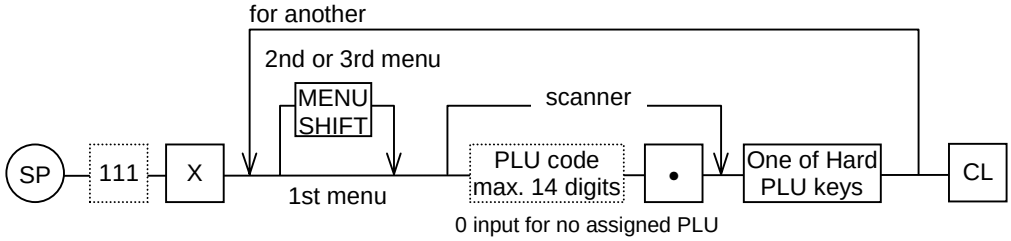
PLU modifier changes PLU code by modifier value. For example, if PLU code 1001 is required to change to PLU code 30000000001001, then enter the modifier value 314.



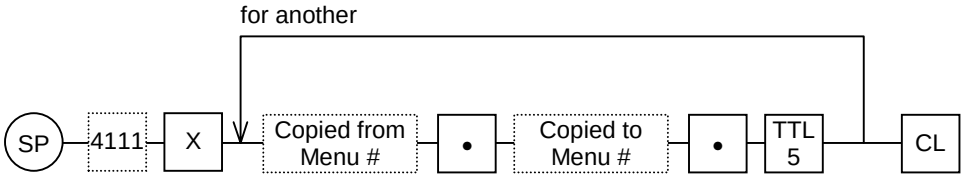
(PGM-111) MENU LAYOUT

For the 1st menu (original menu), skip **MENU SHIFT** key depression.
For the 2nd menu, press **MENU SHIFT 1** key. 2nd PRICE lamp is lit.
For the 3rd menu, press **MENU SHIFT 2** key. STORE lamp is lit.

When menu shift key is pressed in the sequence below, the shifted menu remains until the next shift key is pressed. If the same menu shift key is pressed, the shifted menu returns to the 1st menu.



(PGM-4111) MENU LAYOUT COPY PROCEDURE



After having completed one of the three menu layouts, and when you want to copy one menu to other menu:

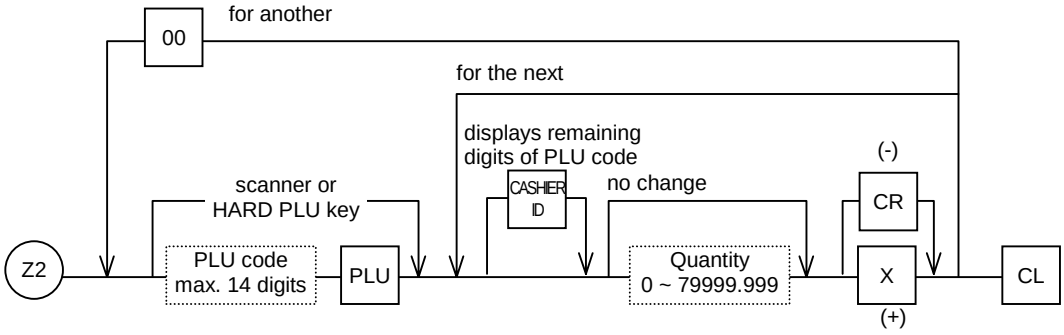
1) Enter the number of the completed menu to be copied from:
   if copying from the 1st menu, enter '0'.
   if copying from the 2nd menu, enter '1'.
   if copying from the 3rd menu, enter '2'.

2) Enter the menu number to be copied to:
   if copying to the 1st menu, enter '0'.
   if copying to the 2nd menu, enter '1'.
   if copying to the 3rd menu, enter '2'.

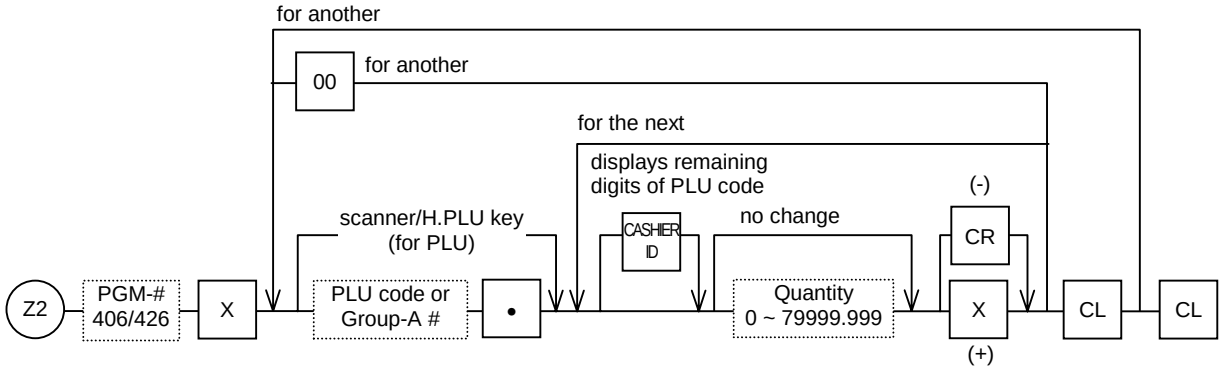
(PGM-406) PLU STOCK
(PGM-426) GROUP-A STOCK

The entered stock is added to or subtracted from the current stock.
The entered stock is printed on receipt by [SF-56.a=1].

**** SIMPLE ** FOR PLU STOCK**



**** INDIVIDUAL ****



Contents	PGM-#	#
PLU stock	406	PLU code (max. 14 digits)
Group-A stock	426	group-A # 1 ~ 98

The following programming should be performed to use stock control;

1) Preset the stock rate by using Stock Rate programming (PGM-367).
2) Assign the stock rate to PLU by PLU Function programming (PGM-200).
3) Select the following by System Function programming;

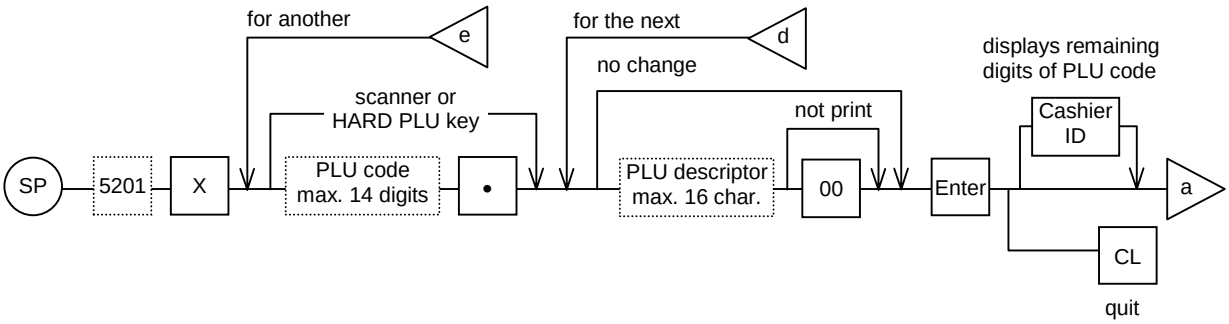
[SF-51.d = 0]	actual quantity added to quantity count	should be set
[SF-51.c = 1]	group-A quantity, stock & PLU stock calculated by stock rate	should be set
[SF-56.a = 1]	stock confirming receipt printed	if desired
[SF-53.h = 1]	warning message #17 displayed when PLU stock is zero or minus	if desired

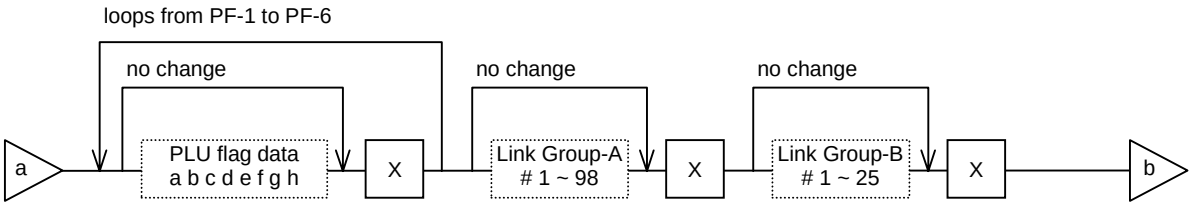
4) Preset the stock unit name and select 'stock unit name printed on PLU report' [SF-6.a].
5) Enter stock by using above sequence.

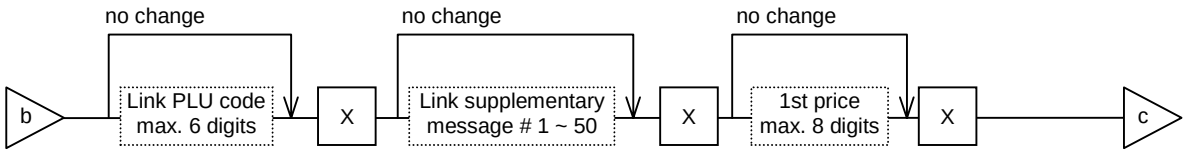
(PGM-5201) COMPLETE PLU PROGRAMMING

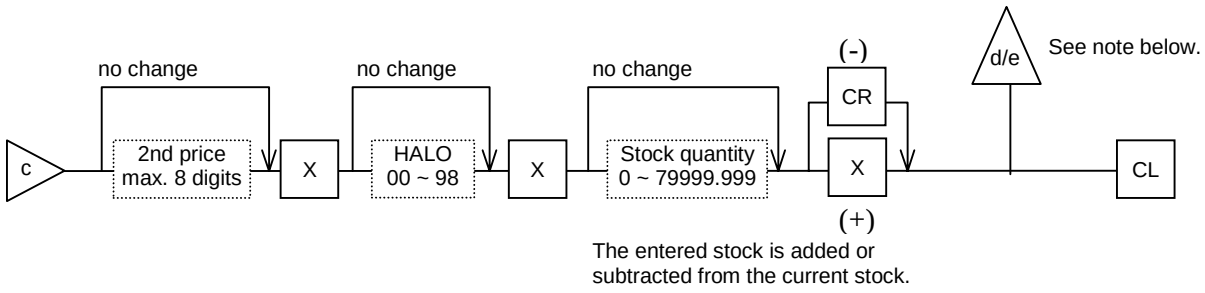
The following PLU programmings can be programmed in one sequence;

1. PLU code
2. PLU descriptor
3. PLU function flag
4. Link group-A, group-B
5. PLU link to one PLU
6. Link supplementary message
7. PLU 1st price, 2nd price
8. PLU HALO
9. PLU stock









Note: When the next PLU code is already existing, the sequence automatically goes to (d) for the next PLU descriptor. If you wish to quit from the sequence, press **ENTER** key and **CL** key.

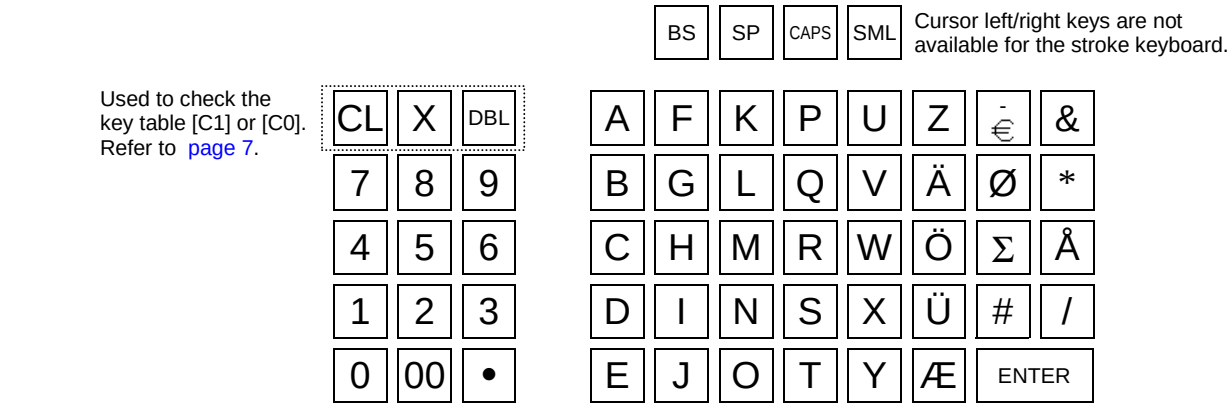
CHARACTER PROGRAMMING

There are two character entry modes: alphabet key mode and code entry mode (default). Either alphabet keys or codes can be used depending on the system function [SF-2.d] (1=alphabet, 0=code).

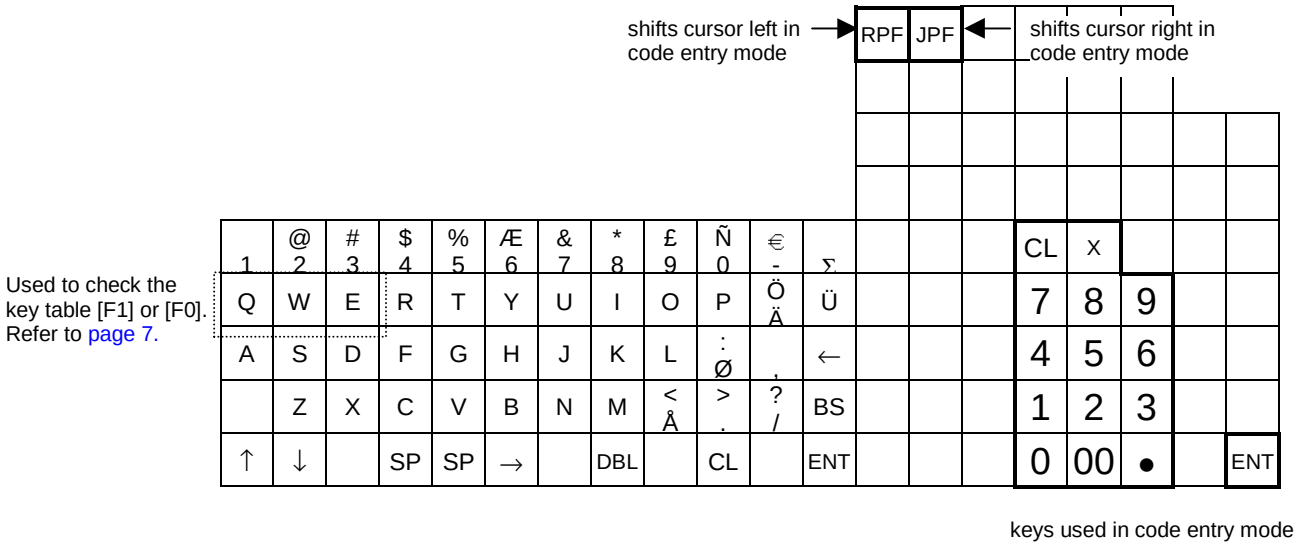
The code entry mode [SF-2.d=0] is useful for the stroke keyboard to enter the characters which are not shown on the keyboard. Please refer to the Character Code Table on the next page.

The key layouts have been fixed for character programming in **the alphabet key mode [SF-2.d=1]**. When **the code entry mode** is used, the positions of shaded keys below are changed if the different keys from the standard key layout have been assigned on the programmable key table ([C1],[F1]). So, **the keys on the fixed key table ([C0],[F0]) are recommended to use for the character programming in the code entry mode.** (The contents of the programmable key table is saved.)

Stroke Keyboard


BS
SP
CAPS
SML
Cursor left/right keys are not available for the stroke keyboard.
Used to check the key table [C1] or [C0]. Refer to page 7.
CL X DBL
7 8 9
4 5 6
1 2 3
0 00 •
A F K P U Z - € &
B G L Q V Ä Ø *
C H M R W Ö Σ Å
D I N S X Ü # /
E J O T Y Æ ENTER

Flat Keyboard


shifts cursor left in code entry mode
RPF JPF
shifts cursor right in code entry mode
Used to check the key table [F1] or [F0]. Refer to page 7.
1 @ 2 # 3 $ 4 % 5 Æ 6 & 7 * 8 £ 9 Ñ 0 € - Σ
Q W E R T Y U I O P Ö Ä Ü
A S D F G H J K L : Ø , ←
Z X C V B N M < Å > . ? / BS
↑ ↓ SP SP → DBL CL ENT
CL X
7 8 9
4 5 6
1 2 3
0 00 • ENT
keys used in code entry mode

Character Code Table

Upper-Case Characters

Character	A	B	C	D	E	F	G	H	I	J	K	L	M
Code	**034**	**035**	**036**	**037**	**038**	**039**	**040**	**041**	**042**	**043**	**044**	**045**	**046**
Character	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Code	**047**	**048**	**049**	**050**	**051**	**052**	**053**	**054**	**055**	**056**	**057**	**058**	**059**

Lower-Case Characters

Character	a	b	c	d	e	f	g	h	i	j	k	l	m
Code	**066**	**067**	**068**	**069**	**070**	**071**	**072**	**073**	**074**	**075**	**076**	**077**	**078**
Character	n	o	p	q	r	s	t	u	v	w	x	y	z
Code	**079**	**080**	**081**	**082**	**083**	**084**	**085**	**086**	**087**	**088**	**089**	**090**	**091**

Numbers

Character	0	1	2	3	4	5	6	7	8	9
Code	**017**	**018**	**019**	**020**	**021**	**022**	**023**	**024**	**025**	**026**

Symbols

Character	#	$	%	&	'	£	Ñ	*	Å	-	.	/	Space	
Code	**004**	**005**	**006**	**007**	**008**	**009**	**010**	**011**	**013**	**014**	**015**	**016**	**001**	
Character	:	Ø	<	Σ	>	?	@	Ä	Ö	Ü	Æ	Double-width		€
Code	**027**	**028**	**029**	**030**	**031**	**032**	**033**	**060**	**061**	**062**	**063**	**096**		**097**

Programmable 94 Characters

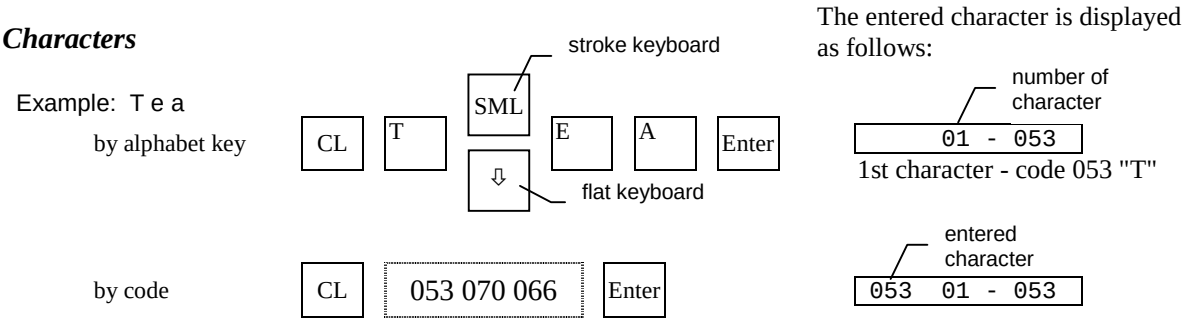
Programmable 94 characters have been added in order to correspond to foreign language.
The print font has to be created by yourself by using Font Maker 2.

Refer to the ROM information of NX-5400-01-V1.07 version for the details.

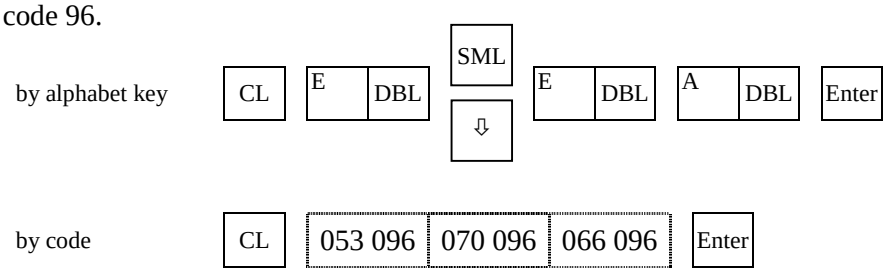
How to Preset Characters

To clear the previously programmed data, press CL key.

Preset Characters



To preset double-width characters, enter the character and then press **DBL** (Double) key or enter code 96.



Cancel

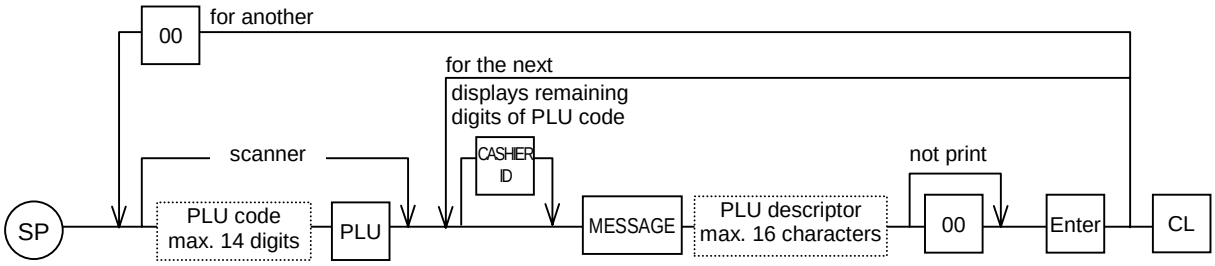
To cancel a character entry, press **CL** key. The previously programmed character remains unchanged. After **CL** key is pressed, re-enter the character or press **Enter** key to finish the entry.

Correction

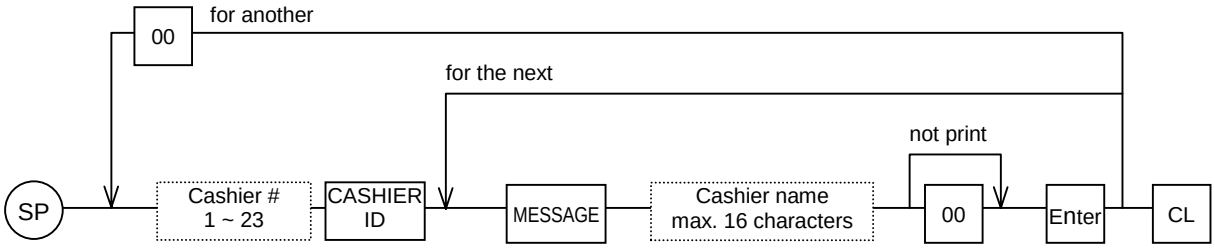
To correct a character immediately after entering it, press **BS** (Back Space) key or **Cursor Left** (left arrow) key which is used only for the alphabet key entry of the flat keyboard and press correct character keys.

Simple Programming Sequences

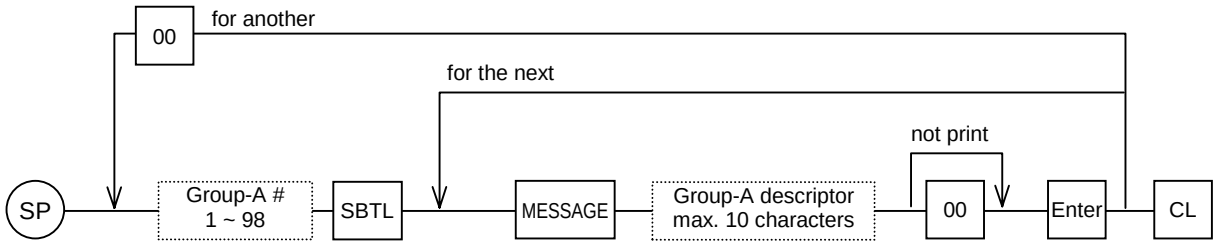
PLU DESCRIPTOR



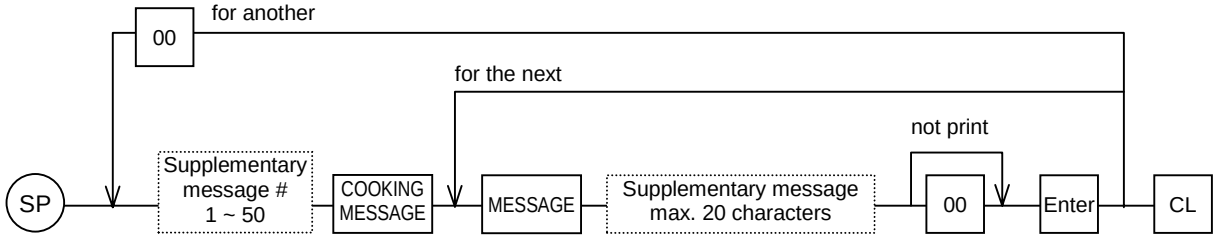
CASHIER NAME



GROUP-A DESCRIPTOR



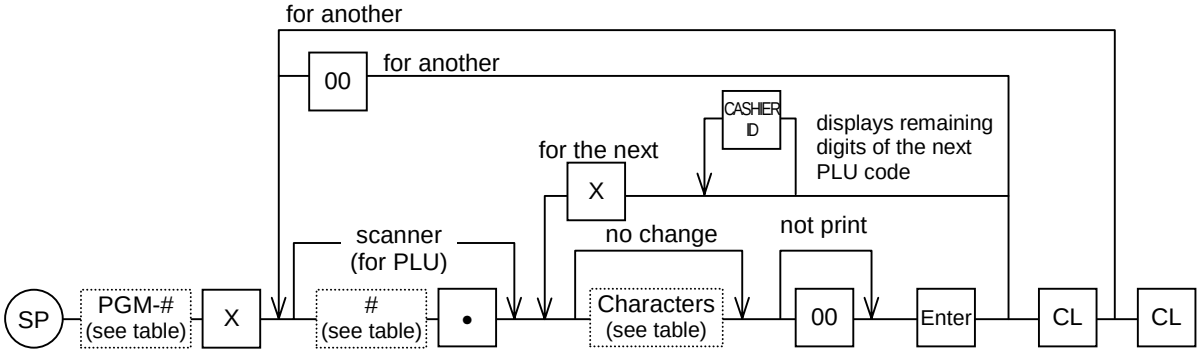
SUPLEMENTARY MESSAGE



Character Programming Sequence

(PGM-212) CASHIER
(PGM-202) PLU
(PGM-102) KEY/SYMBOL
(PGM-242) MAIN GROUP-A
(PGM-222) GROUP-A
(PGM-232) GROUP-B
(PGM-112) STOCK UNIT
(PGM-142) SUPPLEMENTARY MESSAGE
(PGM-122) RECEIPT LOGO
(PGM-152) ECR NAME/KITCHEN PRINTER NAME
(PGM-162) SLIP LOGO

**** INDIVIDUAL ****



Contents	PGM- #	#	# of Characters
Cashier [SF-11.a]	212	1 ~ 23	max. 16 characters (see note below)
PLU	202	enter PLU code	
Key / Symbol	102	See Table in the next page.	max. 10 characters
Main Group-A	242	1 ~ 10	
Group-A	222	1 ~ 98	
Group-B	232	1 ~ 25	
Stock Unit [SF-6.a=1]	112	1 ~ 7	max. 3 characters
Supplementary Message	142	1 ~ 50	max. 20 characters
Receipt Logo [SF-6.e=1]	122	1 ~ 5	max. 24 characters
ECR Name	152	1	max. 8 characters
Kitchen Printer Name		2 ~ 5	
Slip Logo [SF-57.d=1]	162	1 ~ 5	max. 46 characters

Note: Cashier name with cashier symbol
Two characters of cashier symbol is programmed by using top two of 16 characters of cashier name if [SF-11.a=1] is selected. Then, cashier name is reduced to 14 characters.

Key/Symbol #	Standard Auto Preset	Key / Symbol	Remarks key & symbols are displayed and printed on receipt/report unless otherwise described
1	CHECK	Total 1	
2	CUPON	Total 2	
3	UC	Total 3	
4	CASH	Total 4	
5	CASH	Total 5	
6	% 1	%1	
7	% 2	%2	
8	% 3	%3	
9	DSCNT	Amount (-)	
10	PLUS	Amount (+)	
11	AJST1	Adjustment 1	
12	AJST2	Adjustment 2	
13	P/O	P / O (Paid Out)	
14	R/A	R / A (Received on Account)	
15	REFND	Refund	
16	VOID	Void	
17	SALES TTL	Media amount in sales	printed on report only
18	DRAWER TTL	Media amount in drawer	printed on report only
19	CHEQUE	Cheque-cashing charge / Cheque exchange charge	
20	T-AMT	Training count & amount	printed on report only
21	NSALE	No sale	
22	TRCNT	Transaction count	printed on report only
23	PERSN	Number of people	
24	TIP	Tip	
25	CID	CID (Cash In Drawer)	
26	DUE AMOUNT	Due amount	printed when a tendered amount is entered
27	SUBTL	Subtotal	printed by SBTL key printed if [SF-56.g=1]
28	CHNGE	Change	
29	TAX TOTAL	Consolidated tax	printed if [SF-22.g=1]
30	TAX 1	Tax 1	
31	TAX 2	Tax 2	
32	TAX 3	Tax 3	
33	TAX 4	Tax 4	
34	TXSL1	Tax sale 1	printed if [SF-22.e=1]
35	TXSL2	Tax sale 2	
36	TXSL3	Tax sale 3	
37	TXSL4	Tax sale 4	
38	MESS1	Message	
39	MESS2	not used	
40	AMONT	Amount	printed on total validation
41	TOTAL	Total	printed on report only
42	ALTTL	All total	printed on report only
43	CLEAR	Clear	printed on cashier report only
44	CORRECTION	Correction	printed on cashier report only
45	ARNG1	Arrangement 1	printed on program dump report only
46	ARNG2	Arrangement 2	
47	ARNG3	Arrangement 3	
48	ARNG4	Arrangement 4	
49	CORRECTED	Correction	
50	PS CORECT	Correction with link PLU	
51	QUANTITY	Quantity	printed if [SF-6.d=1]
52	TRAINING	Training message	
53	EURO LOCAL	Euro / Local currency message	1st ~ 5th digits : Euro currency symbol 6th ~ 10th digits: Local currency symbol

54	PB.P	Previous balance (+)	printed on report only
55	PB.N	Previous balance (-)	printed on report only
56	N.B	New balance	printed on report only
57	Net-charge	Net (total) charge	printed on report only
58	NET SUBTTL	Net subtotal	printed if [SF-56.c=1]
59	CURENT CHG	Current (last transaction's) charge	printed if [SF-47.d=1]
60	Next page	"To be continued" message	printed on slip printer TP-620
61 62 63 64	CHEQUE MG1 CHEQUE MG2 CHEQUE MG3 CHEQUE MG4	Cheque message 1 Cheque message 2 Cheque message 3 Cheque message 4	printed on cheque (TP-620)
65	CIH	Cash in hand	printed on cashier report
66	FRGN C. ST	Foreign currency subtotal	display only
67	F.S. SBTL	Food stamp subtotal	display only
68 69 70	F.S. TXSL1 F.S. TXSL2 F.S. TXSL3	Food stamp tax sale 1 Food stamp tax sale 2 Food stamp tax sale 3	
71 72 73	F.S. TAX1 F.S. TAX2 F.S. TAX3	Food stamp tax 1 Food stamp tax 2 Food stamp tax 3	
74	COPY	2nd receipt message	printed if [SF-3.c=1]
75	SHORT AMT	Short amount message	
76	SPFFDM £	Currency symbols for media	printed if [SF-74.b=0] 1st, 2nd digits : for Total 1 3rd, 4th digits : for Total 2 5th, 6th digits : for Total 3 7th, 8th digits : for Total 4 9th, 10th digits : for Total 5

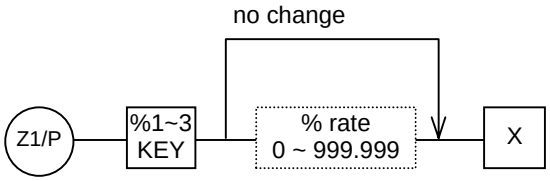
RATE PROGRAMMING

Programming can be done either by the ***simple programming method*** or the ***individual method***.

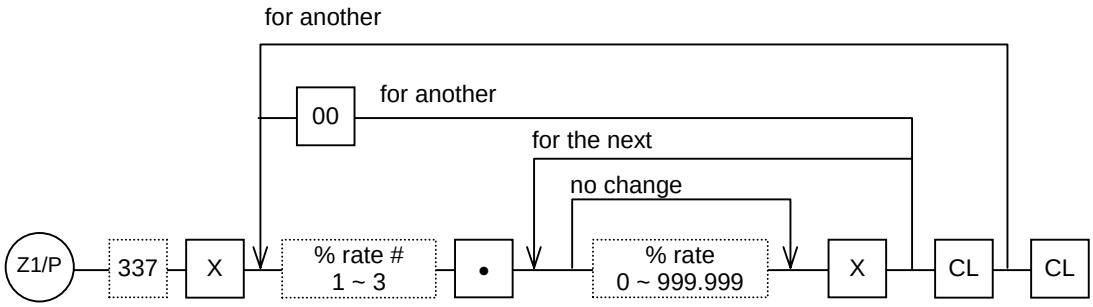
(PGM-337) PERCENTAGE RATE

If percentage rate shall be negative (used for mark-down), select [SF-43 ~ 45] by System Function programming.

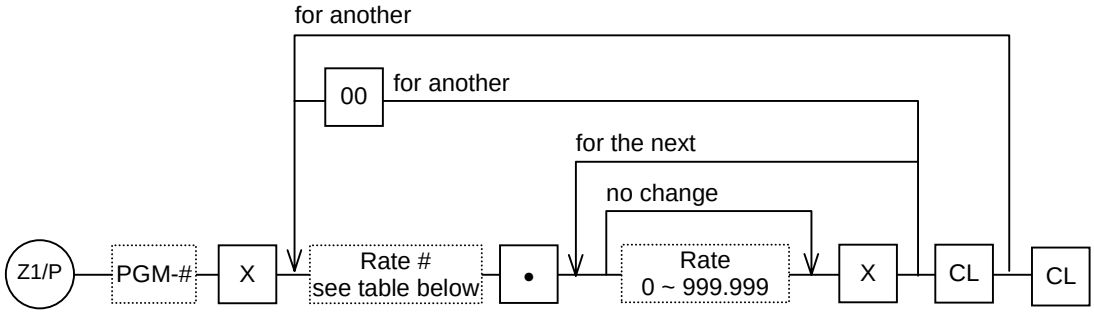
**** SIMPLE ****



**** INDIVIDUAL ****

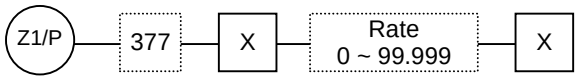


(PGM-347) ADJUSTMENT RATE
(PGM-357) SALES COMMISSION RATE
(PGM-367) STOCK RATE

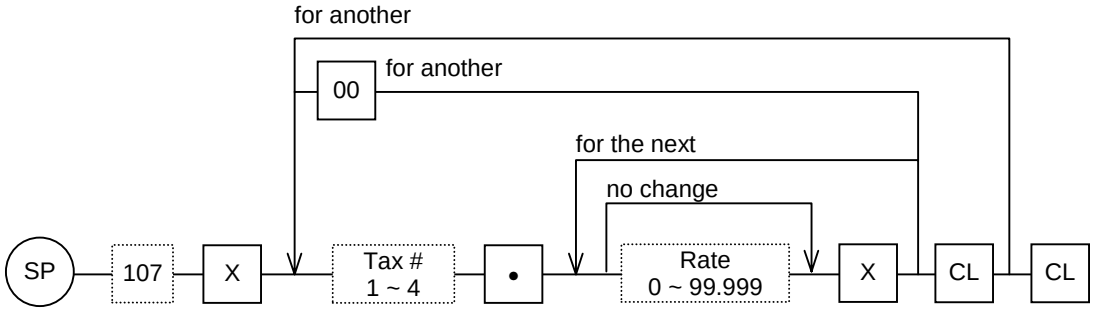


Contents	PGM-#	Rate #
Adjustment Rate	347	1, 2
Sales Commission Rate	357	1 ~ 4
Stock Rate	367	1 ~ 7

(PGM-377) CHEQUE-CASHING CHARGE RATE
CURRENCY EXCHANGE CHARGE RATE

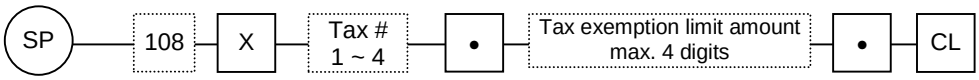


(PGM-107) TAX RATE



(PGM-108) TAX EXEMPTION LIMIT FOR % TAX
TAX TABLE FOR ADD-ON TAX SYSTEM

TAX EXEMPTION LIMIT AMOUNT FOR % TAX 1 ~ 4

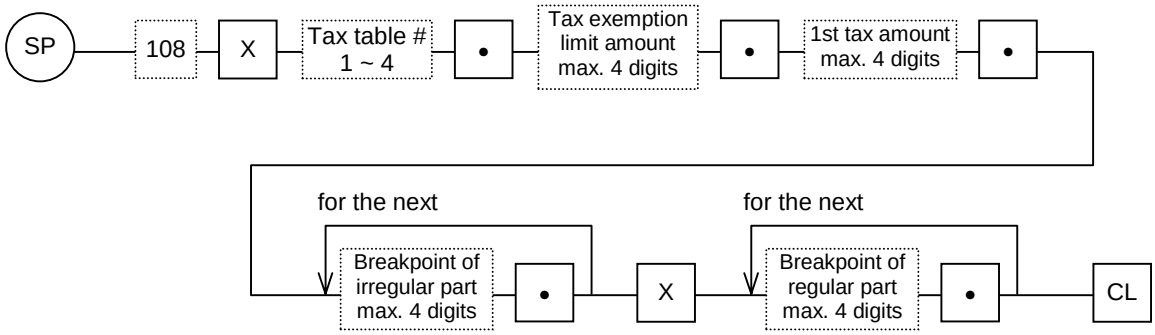


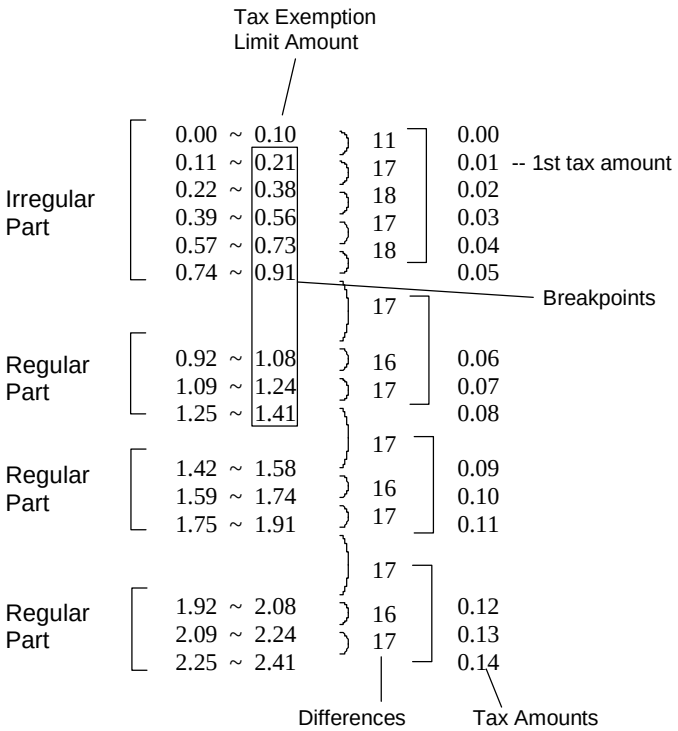
TAX TABLE

Before programming the tax tables,

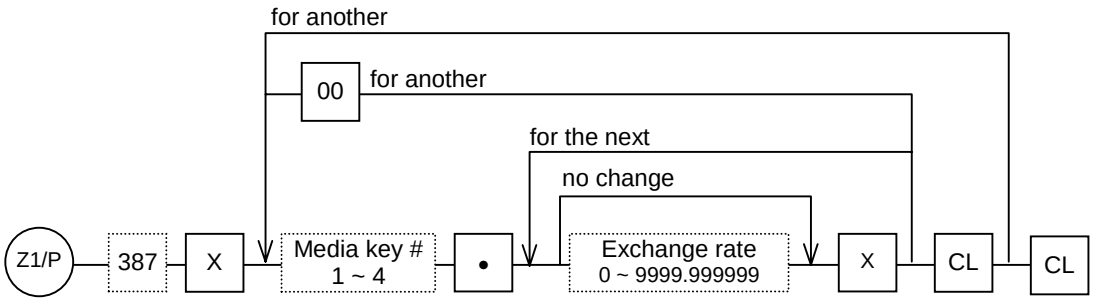
1) check the breakpoint (max. 100 breakpoints available).
2) check the difference between each breakpoint (difference must be less than 3 digits).
3) find the irregular and regular parts.

To find the irregular and regular parts in the tax table, check the sequence patterns.





(PGM-387) FOREIGN CURRENCY EXCHANGE RATE



The following programming should be performed when foreign currency is used;

When Euro media [SF-69~72.e~h=0100/0110/0111] is selected, program Euro currency rate by using (PGM-397) Euro Currency Rate.

1) Select the foreign currency media keys [SF-69~72.e~h] and calculation method [SF-14.a~d]. Then preset the foreign currency exchange rate by using above sequence.

Foreign currency media setting	Enter a rate for
foreign currency is calculated via Euro currency [SF-69~72.e~h=1001]	foreign currency per Euro
foreign currency is calculated directly from the local currency [SF-69~72.e~h=1000]	local currency per foreign currency [SF-14.a~d=0]
	foreign currency per local currency [SF-14.a~d=1]

2) Assign **F.C. SBTL** key (key #228) on the keyboard by using (PGM-101) Key Layout programming. Preset the key name for **F.C. SBTL** key (key/symbol #66) by using (PGM-102) Key/Symbol Name programming.

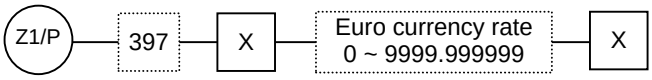
3) Select the following flags;

[SF-73.e]	Calculated amount in local currency printed/not printed when a transaction is closed by Euro or foreign currency.
[SF-73.h, 74.b]	Euro & currency symbols printed/not printed before the amount figure. Also preset the currency symbol per media (key/symbol #76) by using (PGM-102).
[SF-74.c]	Foreign currency exchange rate printed/not printed.
[SF-74.e,f]	Foreign currency exchange amount rounding method.
[SF-69~72.b~d]	Media amount rounding method

4) When currency exchange operations are required, select 'cheque-cashing / currency exchange operations permitted' [SF-17.e~h=1] for each media. For the charge rate of currency exchange, program the rate by using (PGM-377) Currency Exchange Charge Rate programming.

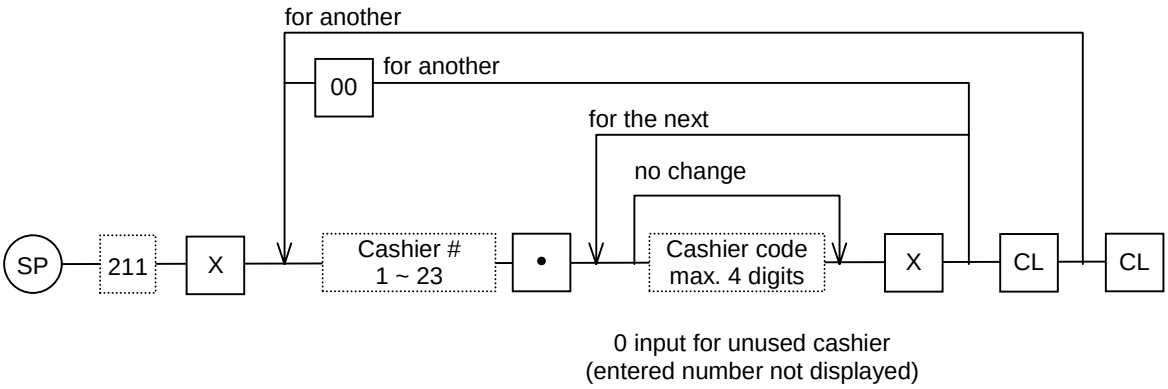
(PGM-397) EURO CURRENCY RATE [SF-13.e=1]

Enter the rate for local currency per Euro currency. Refer to the programming reference for programming contents.



CASHIER PROGRAMMING

(PGM-211) SECRET CASHIER CODE



Note: When a secret cashier code between 9000 ~ 9999 (inclusive) is assigned, the cashier is not permitted to open the drawer.

MISCELLANEOUS PROGRAMMING

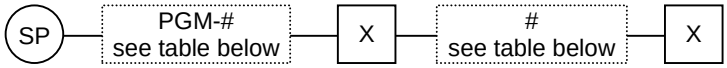
(PGM-131) Z1-REPORT SECRET CODE

(PGM-141) Z2-REPORT SECRET CODE

(PGM-151) TRAINING SECRET CODE

(PGM-171) MACHINE NUMBER

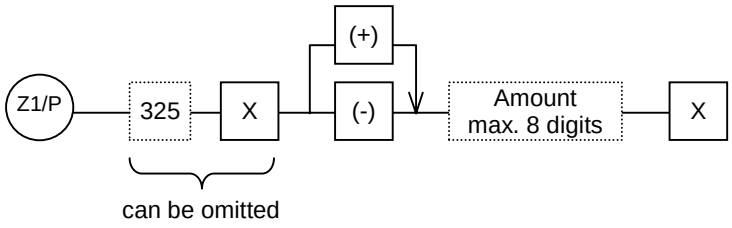
(PGM-179) SLIP PRINTER ID # FOR TP-620



Contents	PGM-#	#	Remarks
Z1-Report Secret Code	131	max. 4 digits	entered # not displayed
Z2-Report Secret Code	141	max. 4 digits	entered # not displayed
Training Secret Code	151	max. 4 digits	entered # not displayed
Machine Number	171	max. 3 digits	See note below.
Slip Printer ID # for TP-620	179	1 ~ 4	[SF-57.h=1]

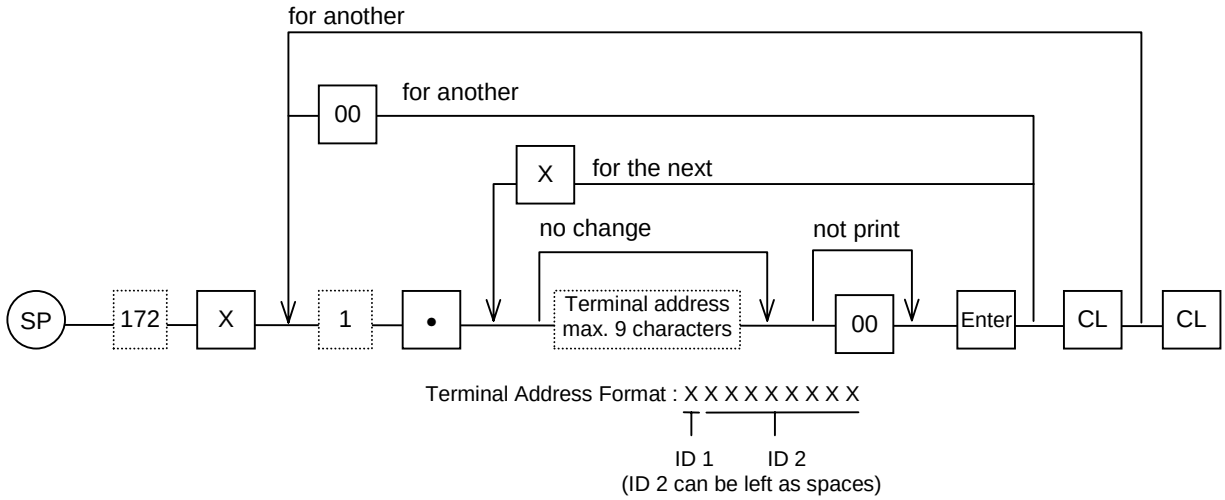
Note: If IRC system is used, the last two digits of the machine number must be 31 of **'1 ~ 62'** and different for each ECR. This is because the last two digits of the machine number is used for ECR ID # of IRC line.

(PGM-325) + / - AMOUNT



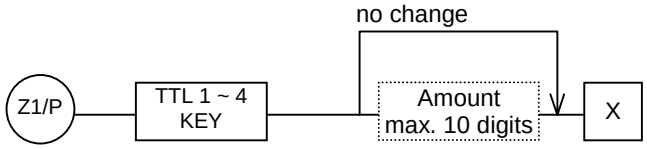
(PGM-172) TERMINAL ADDRESS

In order for an external device (personal computer, etc.) to communicate with ECR by using batch communication protocol, ECR needs an ID code. Use capital alphabet characters for the ID code.

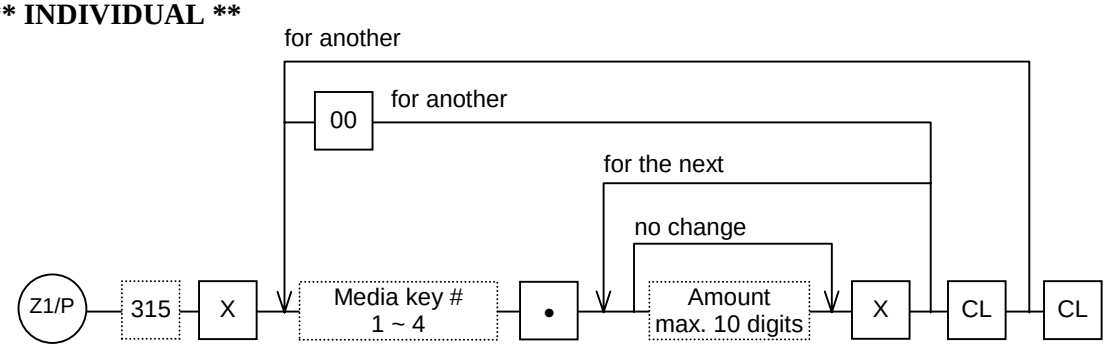


(PGM-315) PRESET TENDER AMOUNT

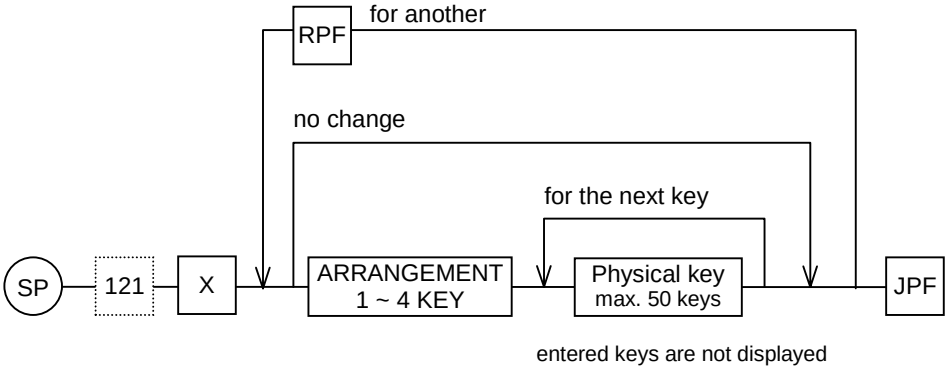
**** SIMPLE ****



**** INDIVIDUAL ****



(PGM-121) ARRANGEMENT KEY SEQUENCE



Note 1: The following keys should not be included in key sequences;

ARRANGEMENT, CASHIER ID, JPF, RPF, RECEIPT-OFF, SLIP RELEASE
TOTAL VALIDATION, MISC. VALIDATION

Note 2: If an error occurs during **ARRANGEMENT** key operation sequence, the remaining operations will be canceled.

Example 1: **ARRANGEMENT 1** key is programmed for an automatic discount operation.

Operation Sequence	Entered Keys	# of Keys
SUBTOTAL	SBTL key	1 key
-%	-% key	1 key
CASH/TTL 5	TTL 5 key	1 key
	Total	3 keys

Press **ARRANGEMENT 1** key after some items are registered. Then automatic discount on the subtotal is performed and the transaction is closed automatically.

Example 2: **ARRANGEMENT 2** key is programmed for assorted reports.

Operation Sequence	Entered Keys	# of Keys
X-03 Full Transaction	3 X TTL 5	3 keys
X-05 Hourly	5 X TTL 5	3 keys
X-10 Cashier	10 X TTL 5	4 keys
X-42 PLU Stock	42 X TTL 5	4 keys
	Total	14 keys

Press **ARRANGEMENT 2** key after the control key is turned to X position. Then four reports above are printed automatically.

(PGM-189) CHEQUE PRINTING FORMAT

If programmed properly and the transaction is closed by cheque media key [SF-69~72.e~h = 0010/0110], the cheque is printed by TP-620 which supports both ***slip printing function*** and ***cheque printing function***.

The flags below must be programmed;

Flag #	Bit	1/0	Contents
SF-17	d	1	Cheque printing is available
SF-57	h	1	With slip printer

One of the following flag features [SF-17.c] must be programmed;

Automatic Cheque Printing [SF-17.c=1] --- recommended

When a cheque is inserted into slip printer TP-620, it is automatically printed by cheque media key. In case the cheque was not inserted into TP-620 and cheque media key was pressed, the cheque printing data will be sent to the printer and warning message #32 will be displayed on ECR and the display of slip printer will be flashing.

Automatic Cheque Printing only when a cheque is inserted [SF-17.c=0]

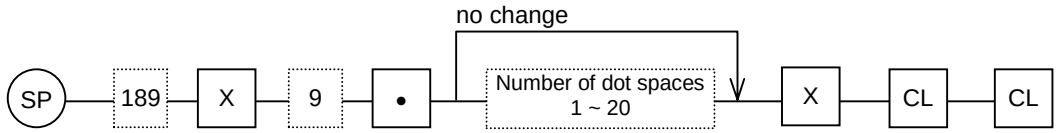
When a cheque is inserted into slip printer TP-620, it is automatically printed by cheque media key. In case the cheque was not inserted into TP-620 and cheque media key was pressed, the cheque printing function will be automatically canceled and no warnings will appear.

The print position of each message can be designed by assigning the number of line and column. The number of dot spaces between lines can be programmed. This will not affect the slip printing format.

The following eight items can be printed on a cheque;

Item #	Contents	Notes
1 ~ 4	Cheque Message 1 ~ 4	programmed by key/symbol names (PGM-102, #61~64)
5	Date	the format is programmed by [SF-7.e,f]
6	3-digit ECR machine # and 6-digit consecutive #	the format is fixed as: #XXX-XXXX
7	Total amount in normal-size characters	the format is fixed as: *total amount*
8	Total amount in double-width characters	the format is fixed as: *total amount*

By using the sequence below, the number of dot spaces between lines can be programmed for fine adjustments of the cheque printing format. **After a program dump (X-85) is printed, the sample of ruler print will automatically be printed by TP-620** if the flags described in the previous page [SF-17.d=1 and SF-57.h=1] were selected.

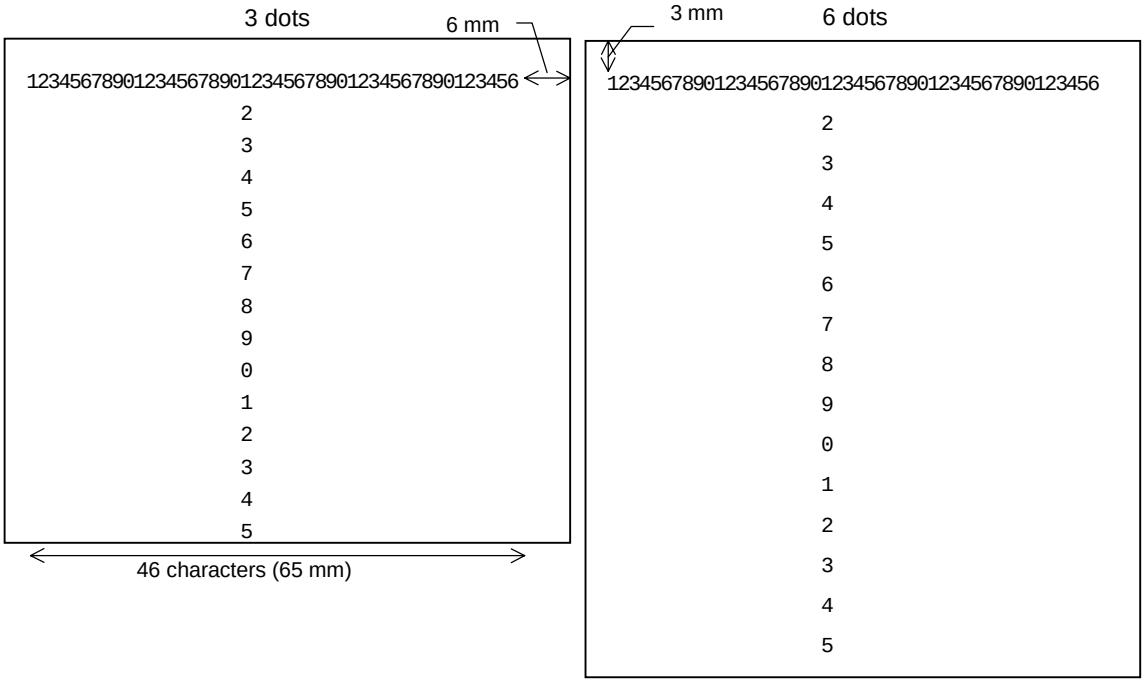


Note: The normal printing format is set at three dot spaces between the lines (6 lines/inch).

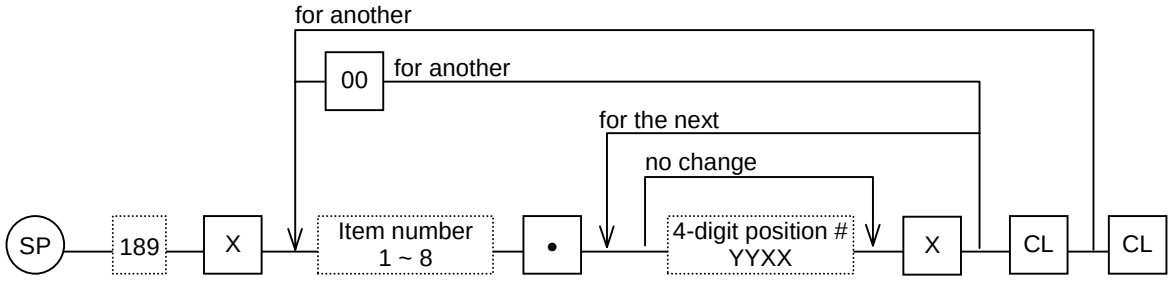
RULER PRINT SAMPLE

The maximum number of available lines is determined by the size of a cheque. When slip printer's display is flashing after the ruler sample was printed according to the above sequence, print the remaining lines by pressing **PRINT** key.

Below are two samples of ruler print in which the dot spaces between the lines were programmed at 3 dots and 6 dots respectively;



The print position of each message can be designed by assigning the **number of line and column** by using the sequence below. For securing the exact positions, refer to the ruler sample printed by TP-620 by program dump (X-85). The programmed positions are printed on program dump (X-85).



YY : line number (max. 20 lines)
XX : column number (max. 46 characters)
0 input for no cheque print

Item #1~4: Cheque message 1 ~ 4
Item #5 : Date
Item #6 : ECR machine # and consecutive #
Item #7 : *total amount* in normal-size characters
Item #8 : *total amount* in double-width characters

Note for Item #7 and #8

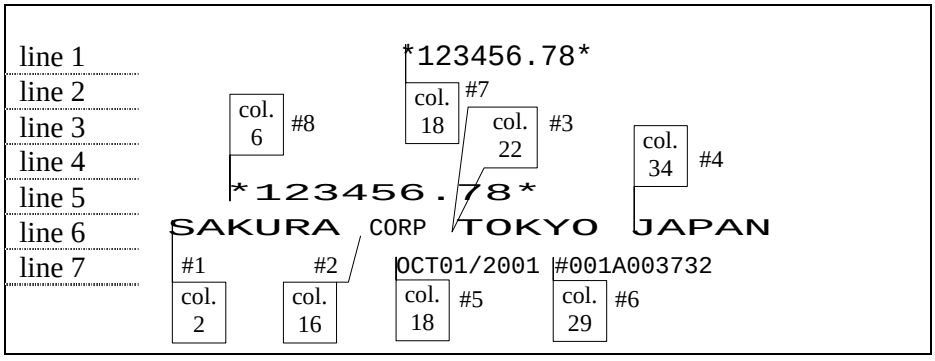
Because the total amount is limited to maximum 10 digits including a punctuation, the column number (XX) should be programmed at maximum 10 digits.

PROGRAM SAMPLE

The following eight items are printed on the cheque by using 6-dot spaces between the lines;

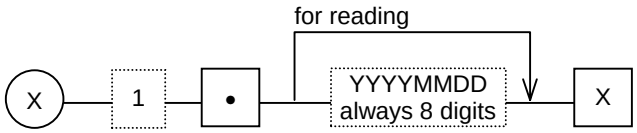
Item #	Contents	Line #	Column #
1	Cheque Message 1 set by key/symbol #61: 'SAKURA' in double-width	6th line (Y: 06)	Col.2 (X: 02)
2	Cheque Message 2 set by key/symbol #62: 'CORP' in double-width & normal size	6th line (Y: 06)	Col.16 (X: 16)
3	Cheque Message 3 set by key/symbol #63: 'TOKYO' in double-width	6th line (Y: 06)	Col.22 (X: 22)
4	Cheque Message 4 set by key/symbol #64: 'JAPAN' in double-width	6th line (Y: 06)	Col.34 (X: 34)
5	Date	7th line (Y: 07)	Col.18 (X: 18)
6	3-digit ECR machine # and 6-digit consecutive #	7th line (Y: 07)	Col.29 (X: 29)
7	*Total amount* in normal-size characters	1st line (Y: 01)	Col.18 (X: 18)
8	*Total amount* in double-width characters	5th line (Y: 05)	Col.6 (X: 06)

CHEQUE PRINT SAMPLE



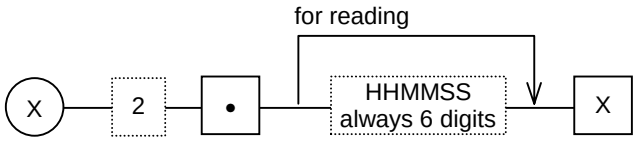
TIME & DATE PROGRAMMING

(PGM-1) DATE



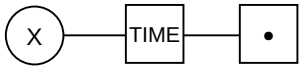
Example: 2001, Oct, 1st is entered as 20011001.

(PGM-2) TIME



Example: 3:50 PM is entered as 15 50 00.
9:30 AM is entered as 09 30 00.

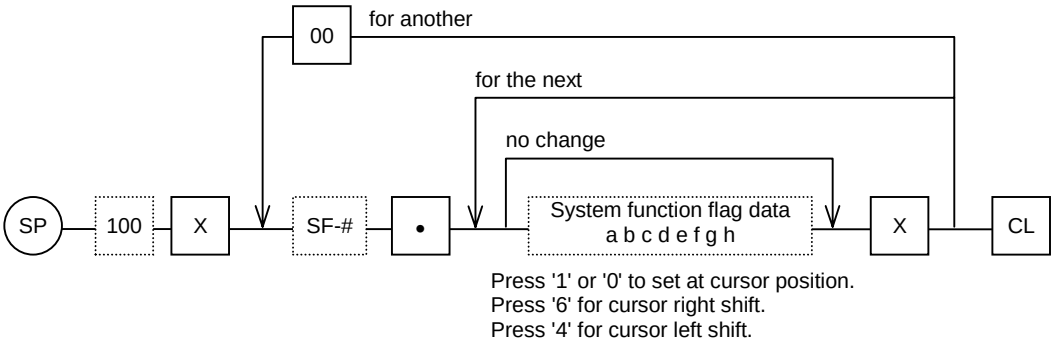
30 SECOND ADJUSTMENT



When the display reads 0 ~ 29 seconds, depression of the [•] key sets the seconds back to 0.
When the display reads 30 ~ 59 seconds, depression of the [•] key set the seconds forward to 0.

SYSTEM PROGRAMMING

(PGM-100) SYSTEM FUNCTION



CONTENTS	FLAG REFERENCE
Adjustment	SF-33, 41, 42
Cashier	SF-11
Cheque printing	SF-17, 69 ~ 72
Communication	SF-62, 66 ~ 68
Compulsory condition	SF-8, 11, 31, 36 ~ 40, 47, 56, 57
Display	SF-2, 51, 53, 56, 73
Drawer	SF-9, 36 ~ 40
Euro currency	SF-13, 24, 69 ~74
Food stamp	SF-3, 22, 69 ~ 72
Foreign currency	SF-4, 5, 14, 69 ~ 72
Inter Register Communication, IRC	SF-29, 62
Journal	SF-1, 2, 6, 67
Journal data transfer	SF-62
Key / Keyboard	SF-1, 2, 11, 26, 32, 33, 51, 52, 53, 56, 60
Kitchen printer	SF-7, 64, 65
Logo	SF-1, 6, 57
%	SF-19, 27, 29, 32, 43 ~ 45
Media / Total	SF-16, 17, 36 ~ 40, 69 ~ 73
PLU / Group	SF-7, 16, 26 ~ 29, 50 ~ 53, 56
(+), (-)	SF-29, 34, 46
Previous balance (PB) operation	SF-47, 57
Punctuation	SF-2, 4, 5, 13
Receipt	SF-1, 2, 7, 10, 22, 26, 27, 51, 56
Report	SF-6, 22, 26 ~ 29, 31
Reset function	SF-6, 26
Rounding	SF-18, 19, 69 ~ 72, 74
Security	SF-31 ~ 33
Scanner	SF-62, 75~78
Slip printer	SF-3, 7, 22, 56 ~ 60
Tax	SF-6, 19, 21 ~ 24, 26, 29
Ticket	SF-1, 2, 6, 26
Tip	SF-29
Track system	SF-11, 29, 47, 57
Others	SF-56
Validation	SF-2, 8, 36 ~ 40

PF -- PLU Function

The flags in the square brackets ([ ]) described in the flag selection box should be set because they have the priority.

PRINT/SYSTEM (1)

SF-1	1/0	bit	1	0
		a		
		b	Ticket system	Non ticket system
		c	**RECEIPT OFF** key functions in R position only	in all positions
		d	2nd receipt issue permitted **[SF-3.d=0]**	prohibited
		e	Receipt logo printed on journal It is not printed when ECR prints the contents for the journal only such as "initial reset message", "power-on/off times" and "clear operation" [SF-6.f~h=1].	not printed
		f	Automatic cut (factory option) **[SF-10.h=1]**	Manual cut
		g	Full cut receipt **[f=1]**	Partial cut receipt **[f=1]**
		h	No sale not printed on receipt (printed on journal only)	printed on receipt & journal

SF-2	1/0	bit	1	0
		a	Consecutive ticket number printed	not printed
		b	With validation sensor (factory option)	without validation sensor
		c	Without key catch buzzer	with key catch buzzer
		d	Alphabet entry by key	by code entry
		e	Warning message #18 is displayed and locked when journal paper near end at the beginning of transaction	not displayed and not locked
		f	Amount printed without zero for local currency (ex: . 7)	with zero (ex: .**0**7)
		g	Local currency's punctuation position [g,h]	
		h	[01] .0 [10] .00 [11] .000 [00] omitted	

SF-3	1/0	bit	1	0
		a		
		b		
		c	2nd receipt message (key/symbol #74) printed **[SF-1.d=1]**	not printed
		d	Post receipt and slip including automatic slip prohibited **RECEIPT OFF** key is disregarded and a receipt is always printed. This makes unlimited item registrations available.	permitted
		e	Food stamp direct closing permitted **[g=1]** You can close the transaction by a **FOOD STAMP** [69~72.e~h=1010] directly, even if the change which should be tendered by cash (cent) remains.	prohibited
		f	Food stamp type is Illinois type **[g=1]**	general type
		g	Food stamp system **[SF-13.e=0, SF-21.f~h=1]** Tax method should be set to the add-on tax method and only tax 1 ~ 3 are available. Tax 4 can not be used.	non-food stamp system
		h		

PRINT/SYSTEM (2)

SF-4	1/0	bit	1	0
		a		
		b	Amount printed without zero (ex: . 7) for Foreign currency 2	with zero (ex: .07)
		c	Foreign currency 2's punctuation position [c,d]	
		d	[01] .0 [10] .00 [11] .000 [00] omitted	
		e		
		f	Amount printed without zero (ex: . 7) for Foreign currency 1	with zero (ex: .07)
		g	Foreign currency 1's punctuation position [g,h]	
		h	[01] .0 [10] .00 [11] .000 [00] omitted	

SF-5	1/0	bit	1	0
		a		
		b	Amount printed without zero (ex: . 7) for Foreign currency 4	with zero (ex: .07)
		c	Foreign currency 4's punctuation position [c,d]	
		d	[01] .0 [10] .00 [11] .000 [00] omitted	
		e		
		f	Amount printed without zero (ex: . 7) for Foreign currency 3	with zero (ex: .07)
		g	Foreign currency 3's punctuation position [g,h]	
		h	[01] .0 [10] .00 [11] .000 [00] omitted	

SF-6	1/0	bit	1	0
		a	Stock unit name printed on PLU report	not printed
		b		
		c	Selective journal contents (tax and total only)	Normal contents
		d	Total quantity of items printed (also see [SF-51.d])	not printed
		e	Logo printed on receipt and ticket	not printed
		f	Clear operation printed on journal	not printed
		g	Power on / off times printed on journal	not printed
		h	Initial reset message printed on journal	not printed

SF-7	1/0	bit	1	0
		a		
		b	Consecutive # printed in double-width character on receipt and journal	in normal size character
		c	Consecutive # printed in double-width character on kitchen printer	in normal size character
		d	Total due amount printed in double-width character on receipt, journal & slip	in normal size character
		e	Month name : Numeric	English name
		f	Date order : DD/MM/YYYY	MM/DD/YYYY
		g	Date printed on receipt, journal and slip	not printed
		h	Time printed on receipt and journal	not printed

Bit b Consecutive # is not printed in double width on receipt/journal even if [SF-7.b=1] when "Second printed" ([SF-7.h=1] and [SF-10.f]).

PRINT/SYSTEM (3)

SF-8	1/0	bit	1	0
		a	Time printed on validation (see [SF-10.f] also)	not printed
		b	Item validation printed upside-down	normal character
		c	Media validation printed upside-down	normal character
		d	Total validation printed upside-down	normal character
		e	Item validation permitted one time only	unlimited
		f	Media validation permitted one time only	unlimited
		g	Total validation permitted one time only	unlimited
		h	Total validation compulsory	not compulsory

SF-9	1/0	bit	1	0
		a	Only 1st price sales is printed on PLU report when sales at 2nd price is 0	Sales of both 1st and 2nd prices printed
		b		
		c		
		d		
		e	Drawer open warning buzzer sounds when the programmed seconds are passed. Timer is programmed from 10 seconds to 38 seconds at 2-second intervals. Optional drawer sensor is required. [0001] 10 secs. [0010] 12 secs. [0011] 14 secs. [0100] 16 secs. [0101] 18 secs. [0110] 20 secs. [0111] 22 secs. [1000] 24 secs. [1001] 26 secs. [1010] 28 secs. [1011] 30 secs. [1100] 32 secs. [1101] 34 secs. [1110] 36 secs. [1111] 38 secs. [0000] warning buzzer does not sound	
		f		
		g		
		h		

Bits e~h Drawer open warning buzzer sounds with Warning Message #14 (drawer is open).

SF-10	1/0	bit	1	0
		a		
		b		
		c		
		d		
		e		
		f	Second printed [SF-7.h=1 for receipt/journal], [SF-8.a=1 for validation]	not printed
		g		
		h	Printer with automatic cutter (factory option) If it is set on ECR which has the manual cutter specification, Warning Message #01 is displayed.	Without automatic cutter

CASHIER

SF-11	1/0	bit	1	0
		a	2-digit programmable cashier symbol and 14 characters of cashier name by SP-212 printed in the last line	1-digit fixed cashier symbol and 16 characters of cashier name printed
		b		
		c		
		d		
		e		
		f		
		g	Cashier entry compulsory before each transaction (when a transaction is closed, the cashier is signed off automatically)	not compulsory (not signed off)
		h		

SF-12	1/0	bit	1	0
		a		
		b		
		c		
		d		
		e		
		f		
		g		
		h		

MEDIA (1) / EURO (1)

SF-13	1/0	bit	1	0
		a		
		b		
		c		
		d		
		e	Euro currency system	normal currency system
		f	Euro media amount printed without zero (for example: . 7)	with zero (for example: .07)
		g	Position of punctuation for Euro media [g,h]:	
		h	[01] .0; [10] .00; [11] .000; [00] omitted	

SF-14	1/0	bit	1	0
		a	Foreign Currency exchange rate of TTL 4 = Foreign Currency / Local Currency [SF-72.e~h=1000]	= Local Currency / Foreign Currency
		b	F.C. exchange rate of TTL 3 = F.C. / L.C. [SF-71.e~h=1000]	= L.C. / F.C.
		c	F.C. exchange rate of TTL 2 = F.C. / L.C. [SF-70.e~h=1000]	= L.C. / F.C.
		d	F.C. exchange rate of TTL 1 = F.C. / L.C. [SF-69.e~h=1000]	= L.C. / F.C.
		e		
		f		
		g		
		h		

SF-15	1/0	bit	1	0
		a		
		b		
		c		
		d		
		e		
		f		
		g		
		h		

Notes for Euro Currency System

- Euro amount is calculated by "local amount x Euro rate".
- In Euro currency system [SF-13.e=1], the due amounts in Euro and local are always printed.
- In Euro currency system [SF-13.e=1], the subtotal amount is always displayed only.
  "Subtotal amount displayed and printed [SF-56.g=1]" setting is disregarded.
- When Euro currency media is selected [SF-69~72.e~h], the position of punctuation depends [SF-13.g,h].

MEDIA (2)

SF-16	1/0	bit	1	0
		a	Total 4 change operation permitted [SF-36~39.a]	prohibited
		b	Total 3 change operation permitted [SF-36~39.a]	prohibited
		c	Total 2 change operation permitted [SF-36~39.a]	prohibited
		d	Total 1 change operation permitted [SF-36~39.a]	prohibited
		e		
		f	Single-item transaction auto-closing media is set according to the order of [f,g,h] as described below; [001] total 1; [010] total 2; [011] total 3; [100] total 4; [101] total 5; [others] single-item prohibited Do not select the food stamp media which programmed by [SF-69~72.e~h] as the single item closing media. If it is selected, the single item will be a normal PLU.	
		g		
		h		

SF-17	1/0	bit		
		a		
		b		
		c	Automatic cheque printing **[d=1]**	only when a cheque has already been inserted **[d=1]**
		d	Cheque printing is available	not available
		e	Total 4 cheque-cashing / currency exchange operations permitted	prohibited
		f	Total 3 cheque-cashing / currency exchange operations permitted	prohibited
		g	Total 2 cheque-cashing / currency exchange operations permitted	prohibited
		h	Total 1 cheque-cashing / currency exchange operations permitted	prohibited

ROUNDING

SF-18	1/0	bit	1	0
		a		
		b		
		c		
		d		
		e	Due amount rounding method [e,f,g,h]	
		f	[0001] Method 1; [0010] Method 2; [0011] Method 3; [0100] Method 4;	
		g	[0101] Method 5; [0110] Method 6; [1000] Method 8; [0111] No rounding	
		h	(Method 7 is not supported yet.)	

SF-19	1/0	bit	1	0
		a		
		b		
		c	Tax amount rounding method [c,d]	
		d	[00 or 11] 5/4; [01] rounded up; [10] discarded	
		e	% amount rounding method [e,f]	
		f	[00 or 11] 5/4; [01] rounded up; [10] discarded	
		g	Item amount rounding method [g,h]	
		h	[00 or 11] 5/4; [01] rounded up; [10] discarded	

SF-20	1/0	bit	1	0
		a		
		b	PLU price rounding method for "1st Euro Conversion" [b,c,d]	
		c	[001] Method 1; [010] Method 2; [011] Method 3; [100] Method 4;	
		d	[101] Method 5; [110] Method 6; [000/111] No rounding (see below)	
		e	Euro & currency symbols (key/symbol #76) is printed before the amount figure. (see [SF-73.h] also) F.C. symbol is <u>not</u> printed on report. Euro currency symbol is printed. Note: This setting is available after "2nd Euro Conversion".	not printed "EURO, LOCAL" message (key/symbol #53) is not printed also.
		f	No rounding for local media amount**{** XE "Not Found PLU (NFP) / Stock Keeping Unit (SKU) entry allowed" **}**	depends on [SF-18.f~h] setting for due amount rounding
		g	Amount track amounts converted to Euro amounts by "1st Euro Conversion" This selection is used only when the amount track amounts remain over Jan.1st, 2002.	not converted (should be cleared by Z-62 report [SF-29.a=1] before "1st Euro Conversion")
		h		

Method 1	Method 2	Method 3	Method 4	Method 5	Method 6
0.00 ~ 0.04 = 0.00 0.05 ~ 0.14 = 0.10	0.01 ~ 0.02 = 0.00 0.03 ~ 0.07 = 0.05 0.08 ~ 0.09 = 0.10	0.01 ~ 0.09 = 0.10	0.00 ~ 0.12 = 0.00 0.13 ~ 0.37 = 0.25 0.38 ~ 0.62 = 0.50 0.63 ~ 0.87 = 0.75 0.88 ~ 1.12 = 1.00	0.01 ~ 0.05 = 0.05 0.06 ~ 0.10 = 0.10	0.00 ~ 0.24 = 0.00 0.25 ~ 0.74 = 0.50 0.75 ~ 1.24 = 1.00
Method 7	**Method 8**				
not supported	0.00 ~ 0.04 = 0.00 0.05 ~ 0.09 = 0.05				

Note for Rounding Method 5 : Only when Method 5 has been selected by [SF-18] and the following flags are set to 1 and 1, this will invoke rounding method 5 and not 5/4.

- tax amount rounding [SF-19.c,d]
- % amount rounding [SF-19.e,f]
- item amount rounding [SF-19.g,h]

TAX

SF-21	1/0	bit	1	0
		a	Add-on tax 4 calculated by tax table **[e=1]**	straight tax % **[e=1]**
		b	Add-on tax 3 calculated by tax table **[f=1]**	straight tax % **[f=1]**
		c	Add-on tax 2 calculated by tax table **[g=1]**	straight tax % **[g=1]**
		d	Add-on tax 1 calculated by tax table **[h=1]**	straight tax % **[h=1]**
		e	Tax 4 calculated by add-on tax method	by VAT method
		f	Tax 3 calculated by add-on tax method	by VAT method
		g	Tax 2 calculated by add-on tax method	by VAT method
		h	Tax 1 calculated by add-on tax method	by VAT method

SF-22	1/0	bit	1	0
		a		
		b		
		c	Taxable subtotal includes VAT amount printed on receipt, journal and slip and reports (X/Z-01 ~ 04) **[e,h=11]**	does not include VAT amount
		d	Tax symbol / food stamp symbol printed	not printed
		e	Taxable subtotal amount printed	not printed
		f	Zero (0) tax amount printed	not printed when both tax and taxable amounts are zero (printed when taxable amount is not 0)
		g	Tax amounts added and printed in a single line	printed separately
		h	VAT data printed on receipt and journal When **BUFFER PRINT 1** key is pressed, VAT data is always printed on a post-receipt/bill.	not printed

Bits e~g When using the VAT system, these functions are operative only if 'VAT data printed' [h=1] is selected.

SF-23	1/0	bit	1	0
		a	Manual exemption of add-on tax 4 permitted **[SF-21.e=1]**	prohibited
		b	Manual exemption of add-on tax 3 permitted **[SF-21.f=1]**	prohibited
		c	Manual exemption of add-on tax 2 permitted **[SF-21.g=1]**	prohibited
		d	Manual exemption of add-on tax 1 permitted **[SF-21.h=1]**	prohibited
		e	Add-on tax 4 exemption automatically calculated per person	per transaction **[SF-21.e=1]**
		f	Add-on tax 3 exemption automatically calculated per person	per transaction **[SF-21.f=1]**
		g	Add-on tax 2 exemption automatically calculated per person	per transaction **[SF-21.g=1]**
		h	Add-on tax 1 exemption automatically calculated per person	per transaction **[SF-21.h=1]**

SF-24	1/0	bit	1	0
		a	Euro VAT tax and taxable subtotal are printed even if Euro media key [SF-69~72.e~h] is not used **[SF-22.h=1, SF-13.e=1]**	printed when Euro media key is used **[SF-22.h=1, SF-13.e=1]**
		b		
		c		
		d		
		e	Tax 4 amount not added to grand total	added **[SF-29.g=1]**
		f	Tax 3 amount not added to grand total	added **[SF-29.g=1]**
		g	Tax 2 amount not added to grand total	added **[SF-29.g=1]**
		h	Tax 1 amount not added to grand total	added **[SF-29.g=1]**

SF-25	1/0	bit	1	0
		a	Singapore GST system: TAX 4 is treated as Singapore GST GST (TAX 4) = (SUBTOTAL + TAX 1 + TAX 2 + TAX 3) x GST tax rate (Only Add-on tax method is employed when Singapore GST is used.)	non-Singapore GST system
		b	GST taxable subtotal amount printed [a=1]	not printed [SF-22.e=0]
		c		
		d		
		e		
		f		
		g		
		h		

REPORT (1)

SF-26	1/0	bit	1	0
		a	Tax data printed on report	not printed
		b	Z counts increased after Z-01/02 report only	after every Z report
		c	Z report of individual PLU and Group permitted	prohibited
		d	X count not reset after Z-01 report	reset
		e	Consecutive receipt/ticket numbers not reset after Z-01 report	reset
		f	CID memory not reset after Z-01 report	reset
		g	Cashier memory not reset after Z-01/02 report	reset
		h	Z report issued by control key and secret code entry which programmed by (PGM-131/141) Z1/Z2 report secret code	by control key only

SF-27	1/0	bit	1	0
		a		
		b		
		c	Sales-type 1 ~ 4 PLU amounts added to each cashier sales memory without VAT amount	with VAT amount
		d	Number of registrations (items) and net amount printed on hourly report	Number of receipts and gross amount printed
		e	Sales % printed on Group reports	not printed
		f	Sales % printed on Group-A/B PLU report	not printed
		g		
		h	Sales % calculated by quantity **[e/f=1]**	by amount **[e/f=1]**

SF-28	1/0	bit	1	0
		a	Sales-type 4 PLU amount added to grand total	not added
		b	Sales-type 3 PLU amount added to grand total	not added
		c	Sales-type 2 PLU amount added to grand total	not added
		d	Sales-type 1 PLU amount added to grand total	not added
		e	Sales-type 4 PLU amount added to cashier sales total	not added
		f	Sales-type 3 PLU amount added to cashier sales total	not added
		g	Sales-type 2 PLU amount added to cashier sales total	not added
		h	Sales-type 1 PLU amount added to cashier sales total	not added

Sales-type can be programmed to each PLU by (PGM-200) PLU function programming.
These amounts appear on the cashier report.

```
C01 CASHIER NAME 01
    4          30.80
S1       0     %
                16.00
S2       5     %
                 0.00
S3      10     %
                10.00
S4      15     %
                 0.00
TOTAL
                10.00
CM               1.00
CIH             30.80
--------------------
ALTTL
                30.80
S1              16.00
S2               0.00
S3              10.00
S4               0.00
ALTTL
                10.00
          :
```

Cashier report
transaction count, amount
sales-type 1 PLU commission rate
sales-type 1 PLU amount --- always printed
sales-type 2 PLU commission rate, amount --- always printed
sales-type 3 PLU commission rate, amount --- always printed
sales-type 4 PLU commission rate, amount --- always printed
total amount of sales-type 1 ~ 4 PLUs --- depends on [SF-28.e~h]
(e~g=1, h=0 has been set on this sample)
commission amount
cash in hand
all cashier's total transaction amount
all cashier's total amount of sales-type 1 PLU
all cashier's total amount of sales-type 2 PLU
all cashier's total amount of sales-type 3 PLU
all cashier's total amount of sales-type 4 PLU
all cashier's total amount of sales-type 1 ~ 4 PLUs --- depends on [SF-28.e~h]

REPORT (2)

SF-29	1/0	bit	1	0
		a	Z-62 track report permitted	prohibited
		b	IRC Z report not printed on slave (see table below)	printed
		c		
		d		
		e	%, (+) and (-) on item amounts do not affect PLU and Group memories	affect
		f	Tip amount added to media memory	not added
		g	Tax amount added to grand total (see [SF-24.e~h] also)	not added
		h	%, (+) and (-) amounts added to grand total	not added

		Master prints	Slave prints
Consolidated Z-report	printed [b=0]	own report and a consolidated report with IRC status	own report
	not printed [b=1]	own confirmation report and a consolidated report with IRC status	a confirmation report on journal only
Individual Z-report	printed [b=0]	a designated slave's report with IRC status	own report
	not printed [b=1]	a designated slave's report with IRC status	a confirmation report on journal only

SF-30	1/0	bit	1	0
		a		
		b		
		c		
		d		
		e		
		f		
		g		
		h		

SECURITY

SF-31	1/0	bit	1	0
		a	Cash declaration prohibited	permitted
		b	Cash declaration compulsory before 1st level reports (except for non-active PLU report #43) **[a=0]**	not compulsory **[a=0]**
		c	Void permitted regardless the subtotal becomes minus	prohibited
		d	Cash declaration compulsory before 1st level reports including CID (report numbers : 1, 3, 8) **[b=1]**	before 1st level reports (same as b=1)
		e		
		f		
		g		
		h		

SF-32	1/0	bit	1	0
		a	**P/O** operation requires to turn the control key to Z1/P position	to R position
		b	**R/A** operation requires to turn the control key to Z1/P position	to R position
			Refund operation requires to turn the control key to Z1/P position	to R position
		d	**Void** operation require to turn the control key to Z1/P position	to R position
		e	**Discount** operation requires to turn the control key to Z1/P position	to R position
		f	**-%** operation requires to turn the control key to Z1/P position	to R position
		g	**No sale** operation requires to turn the control key to X position	to R position
		h	**Manual price entry** requires to turn the control key to X position	to R position

SF-33	1/0	bit	1	0
		a		
		b		
		c		
		d		
		e	**Adjustment 2** requires to turn the control key to Z1/P position	to R position
		f	**Adjustment 1** requires to turn the control key to Z1/P position	to R position
		g	**Off compulsory** requires to turn the control key to Z1/P position	to R position
		h	**HALO release** requires to turn the control key to Z1/P position	to R position

Bits e,f If either adjustment 1 or adjustment 2 is permitted in Z1/P position, **Adjustment 1 & 2** key will be permitted in Z1/P position.

AMOUNT (+)/(-) (1)

SF-34	1/0	bit	1	0
		a		
		b		
		c	Amount (-) on subtotal prohibited	permitted
		d	Amount (-) on item prohibited	permitted
		e		
		f		
		g	Amount (+) on subtotal prohibited	permitted
		h	Amount (+) on item prohibited	permitted

SF-35	1/0	bit	1	0
		a		
		b		
		c		
		d		
		e		
		f		
		g		
		h		

MEDIA (2)

SF-36	1/0	bit	1	0
		a	Change amount of over-tendering by Total 1 deducted from media designated by [SF-16.a~d=1] and Total 5 For change amount of over-tendering by Euro media, see [SF-73.g].	Total 5 automatically
		b	Total 1 opens drawer	does not open
		c	Total 1 amount added to CID memory	not added
		d	Total 1 media validation compulsory **[e=0]**	not compulsory
		e	Total 1 media validation prohibited	permitted
		f	Total 1 tendered amount input compulsory **[h=0]**	not compulsory
		g	Total 1 over-tendered amount input prohibited	permitted **[h=0]**
		h	Total 1 tendered amount input prohibited	permitted

SF-37	1/0	bit	1	0
		a	Change amount of over-tendering by Total 2 deducted from media designated by [SF-16.a~d=1] and Total 5 For change amount of over-tendering by Euro media, see [SF-73.g].	Total 5 automatically
		b	Total 2 opens drawer	does not open
		c	Total 2 amount added to CID memory	not added
		d	Total 2 media validation compulsory **[e=0]**	not compulsory
		e	Total 2 media validation prohibited	permitted
		f	Total 2 tendered amount input compulsory **[h=0]**	not compulsory
		g	Total 2 over-tendered amount input prohibited	permitted **[h=0]**
		h	Total 2 tendered amount input prohibited	permitted

SF-38	1/0	bit	1	0
		a	Change amount of over-tendering by Total 3 deducted from media designated by [SF-16.a~d=1] and Total 5 For change amount of over-tendering by Euro media, see [SF-73.g].	Total 5 automatically
		b	Total 3 opens drawer	does not open
		c	Total 3 amount added to CID memory	not added
		d	Total 3 media validation compulsory **[e=0]**	not compulsory
		e	Total 3 media validation prohibited	permitted
		f	Total 3 tendered amount input compulsory **[h=0]**	not compulsory
		g	Total 3 over-tendered amount input prohibited	permitted **[h=0]**
		h	Total 3 tendered amount input prohibited	permitted

SF-39	1/0	bit	1	0
		a	Change amount of over-tendering by Total 4 deducted from media designated by [SF-16.a~d=1] and Total 5 For change amount of over-tendering by Euro media, see [SF-73.g].	Total 5 automatically
		b	Total 4 opens drawer	does not open
		c	Total 4 amount added to CID memory	not added
		d	Total 4 media validation compulsory **[e=0]**	not compulsory
		e	Total 4 media validation prohibited	permitted
		f	Total 4 tendered amount input compulsory **[h=0]**	not compulsory
		g	Total 4 over-tendered amount input prohibited	permitted **[h=0]**
		h	Total 4 tendered amount input prohibited	permitted

SF-40	1/0	bit	1	0
		a	Change amount of over-tendering by Total 5 deducted from media designated by [SF-16.a~d=1] and Total 5 For change amount of over-tendering by Euro media, see [SF-73.g].	Total 5 automatically
		b	Total 5 opens drawer	does not open
		c	Total 5 amount added to CID memory	not added
		d	Total 5 media validation compulsory **[e=0]**	not compulsory
		e	Total 5 media validation prohibited	permitted
		f	Total 5 tendered amount input compulsory **[h=0]**	not compulsory
		g	Total 5 over-tendered amount input prohibited	permitted **[h=0]**
		h	Total 5 tendered amount input prohibited	permitted

ADJUSTMENT

SF-41	1/0	bit	1	0
		a		
		b		
		c		
		d	Adjustment 1 amount affects taxable subtotal 4	does not affect
		e	Adjustment 1 amount affects taxable subtotal 3	does not affect
		f	Adjustment 1 amount affects taxable subtotal 2	does not affect
		g	Adjustment 1 amount affects taxable subtotal 1	does not affect
		h	Adjustment 1 polarity is negative	positive

SF-42	1/0	bit	1	0
		a		
		b		
		c		
		d	Adjustment 2 amount affects taxable subtotal 4	does not affect
		e	Adjustment 2 amount affects taxable subtotal 3	does not affect
		f	Adjustment 2 amount affects taxable subtotal 2	does not affect
		g	Adjustment 2 amount affects taxable subtotal 1	does not affect
		h	Adjustment 2 polarity is negative	positive

%

SF-43	1/0	bit	1	0
		a	%1 on subtotal prohibited	permitted
		b	%1 on item prohibited	permitted
		c	%1 amount affects taxable subtotal 4	does not affect
		d	%1 amount affects taxable subtotal 3	does not affect
		e	%1 amount affects taxable subtotal 2	does not affect
		f	%1 amount affects taxable subtotal 1	does not affect
		g	Manual %1 rate entry permitted	prohibited
		h	%1 polarity is negative	positive

SF-44	1/0	bit	1	0
		a	%2 on subtotal prohibited	permitted
		b	%2 on item prohibited	permitted
		c	%2 amount affects taxable subtotal 4	does not affect
		d	%2 amount affects taxable subtotal 3	does not affect
		e	%2 amount affects taxable subtotal 2	does not affect
		f	%2 amount affects taxable subtotal 1	does not affect
		g	Manual %2 rate entry permitted	prohibited
		h	%2 polarity is negative	positive

SF-45	1/0	bit	1	0
		a	%3 on subtotal prohibited	permitted
		b	%3 on item prohibited	permitted
		c	%3 amount affects taxable subtotal 4	does not affect
		d	%3 amount affects taxable subtotal 3	does not affect
		e	%3 amount affects taxable subtotal 2	does not affect
		f	%3 amount affects taxable subtotal 1	does not affect
		g	Manual %3 rate entry permitted	prohibited
		h	%3 polarity is negative	positive

AMOUNT (+)/(-) (2)

SF-46	1/0	bit	1	0
		a	Amount (-) affects taxable subtotal 4	does not affect
		b	Amount (-) affects taxable subtotal 3	does not affect
		c	Amount (-) affects taxable subtotal 2	does not affect
		d	Amount (-) affects taxable subtotal 1	does not affect
		e	Amount (+) affects taxable subtotal 4	does not affect
		f	Amount (+) affects taxable subtotal 3	does not affect
		g	Amount (+) affects taxable subtotal 2	does not affect
		h	Amount (+) affects taxable subtotal 1	does not affect

TRACK / PREVIOUS BALANCE

SF-47	1/0	bit	1	0
		a		
		b		
		c	Multiple track / previous balance operations	Single track/P.B. operations
		d	Current transaction's charge printed	not printed
		e	New Balance closing prohibited if a track is not opened or Previous Balance key is not used	permitted
		f	New Balance closing compulsory if a track is opened or Previous Balance key is used	not compulsory
		g		
		h	Track number input compulsory at the beginning of transaction	not compulsory

SF-48	1/0	bit	1	0
		a		
		b		
		c		
		d		
		e		
		f		
		g		
		h		

SF-49	1/0	bit	1	0
		a		
		b		
		c		
		d		
		e		
		f		
		g		
		h		

PLU

SF-50	1/0	bit	1	0
		a	Simple condiment PLU function available **[h=1]** (see [PF-4.a,b])	not available
		b	User friendly PLU function (Not Found PLU entry) allowed **[PF-3.b=1] {** XE "Not Found PLU (NFP) / Stock Keeping Unit (SKU) entry allowed" **}**	not allowed
		c	PLU descriptor entry can be skipped in**{** XE "PLU descriptor entry skip" **}** New PLU create sequence for Not Found PLU in R position	prohibited
		d	PLU used as a master PLU for Not Found PLU registered as a normal PLU**{** XE "PLU used for Not Found PLU registered as a normal PLU" **} [b=1] [PF-3.b=1]**	not registered
		e		
		f		
		g	Split pricing operation prohibited	permitted
		h	PLU not consolidated on buffer print	consolidated

SF-51	1/0	bit	1	0
		a	Direct multiplication on Hard PLU (number entry and a **H.PLU** key depression directly execute a multiplication without **X** key)	execute a price override
		b	Quantity for multiplication 9999 **[PF-3.d=1]** or 999.999 **[PF-3.d=0]**	999.999 only
		c	Group-A quantity, stock and PLU stock calculated by stock rate **[d=0]**	Quantity by item
		d	Quantity count on receipt always added as 1 **[SF-6.d=1]**	actual quantity added **[SF-6.d=1]**
		e	PLU with group-A descriptor printed	not printed
		f		
		g	PLU code displayed	not displayed
		h	PLU code printed	not printed

SF-52	1/0	bit	1	0
		a		
		b	**PLU modifier** requires to turn the control key to X position	to R position
		c	**PLU price shift** requires to turn the control key to X position	to R position
		d	**PLU menu shift** requires to turn the control key to X position	to R position
		e	**Price shift** remains [e,f]	
		f	[00/11] for one registration; [01] for one transaction; [10] until next shift key is pressed	
		g	**Menu shift** remains [g,h]	
		h	[00/11] for one registration; [01] for one transaction; [10] until next shift key is pressed	

SF-53	1/0	bit	1	0
		a	**PLU modifier** remains [a,b]	
		b	[00/11] for one registration; [01] for one transaction; [10] until next modifier key is pressed	
		c		
		d		
		e		
		f		
		g		
		h	Warning message #17 displayed when PLU stock is zero or minus	not displayed

SF-54	1/0	bit	1	0
		a		
		b		
		c		
		d		
		e		
		f		
		g		
		h		

SF-55	1/0	bit	1	0
		a		
		b		
		c		
		d		
		e		
		f		
		g		
		h		

OTHERS

SF-56	1/0	bit	1	0
		a	Entered PLU stock printed when PLU stock programming is performed	not printed
		b		
		c	Net subtotal displayed and printed by **NET SBTL** key depression	displayed only
		d	Net subtotal automatically printed above the add-on tax amount line at closing on receipt, journal and slip (When the add-on tax amount is zero, it will not be printed.)	not printed
		e	Message input compulsory	not compulsory
		f	Number of persons input compulsory	not compulsory
		g	Subtotal amount displayed and printed by **SBTL** key depression	displayed only
		h	**SBTL** key depression compulsory before tendering amount input	not compulsory

SLIP PRINTER

SF-57	1/0	bit	1	0
		a		
		b	Slip print started from current position	from home position
		c	Time printed on slip	not printed
		d	Slip logo printed	not printed
		e	Slip print [e,f] [10] slip print always compulsory [01] compulsory when a track is opened or **Previous Balance** key is used [00/11] not compulsory	
		f		
		g	Automatic slip print	manual slip print
		h	With slip printer	without slip printer

SF-58	1/0	bit	1	0
		a		
		b	Item lines for TP-620 is 64 lines	0 line
		c	Item lines for TP-620 is 32 lines	0 line
		d	Item lines for TP-620 is 16 lines	0 line
		e	Item lines for TP-620 is 8 lines	0 line
		f	Item lines for TP-620 is 4 lines	0 line
		g	Item lines for TP-620 is 2 lines	0 line
		h	Item lines for TP-620 is 1 line	0 line

Minimum item lines is 20 lines and maximum item lines is 127 lines.

SF-59	1/0	bit	1	0
		a	Blank lines between logo and item line is 8 lines **[SF-57.d=1]**	0 line
		b	Blank lines between logo and item line is 4 lines **[SF-57.d=1]**	0 line
		e	Blank lines between logo and item line is 2 lines **[SF-57.d=1]**	0 line
		d	Blank lines between logo and item line is 1 line **[SF-57.d=1]**	0 line
		e	Pre-feed lines for TP-620 is 8 lines	0 line
		f	Pre-feed lines for TP-620 is 4 lines	0 line
		g	Pre-feed lines for TP-620 is 2 lines	0 line
		h	Pre-feed lines for TP-620 is 1 line	0 line

SF-60	1/0	bit	1	0
		a	Slip printer error cancelled by **OFF COMPULSORY** key	not cancelled
		b		
		e		
		d		
		e		
		f		
		g		
		h		

SF-61	1/0	bit	1	0
		a		
		b		
		e		
		d		
		e		
		f		
		g		
		h		

COMMUNICATION (1)

Channel A/B

SF-62	1/0	bit	1	0
		a	Baud rate: IRC line (ch-A) is 38400 bps	19200 bps
		b	With scanner	without scanner
		c	Expanded UPC-E code	normal UPC-E code
		d	**Source Marking Code** : 8, 13-digit PLU codes including check digit are programmed (ECR treats the last one digit as check digit.)	does not include check digit (7, 12-digit PLU code are programmed)
			In-Store Marking Code (for non-embedded code **[SF-76,78.e,f=00]**) : 10-digit article code with check digit is programmed as PLU code (also see [SF-76,78.d])	10-digit article code only (also see [SF-76,78.d])
		e	Baud rate: ECR to ECR RAM data transfer (ch-B) is 19200 bps	9600 bps
		f		
		g		
		h	Journal data transmitted through channel B	not transmitted

Note for PLU code:

8 and 13-digit PLU codes are always regarded as bar code so that the entry of 8/13-digit PLU code which does not include check digit may be prohibited.

When the PLU code entered manually without the check digit will cause a check digit error, because the check digit is not shown on the label. However, you can enter PLU code with the check digit manually if you know the calculation method of the check digit. Scanner entry is permitted of course.

SF-63	1/0	bit	1	0
		a		
		b		
		c		
		d		
		e		
		f		
		g		
		h		

KITCHEN PRINTER

SF-64	1/0	bit	1	0
		a		
		b		
		c		
		d		
		e	KP 4 used	not used
		f	KP 3 used	not used
		g	KP 2 used	not used
		h	KP 1 used	not used

SF-65	1/0	bit	1	0
		a	KP 4 back-up [a,b]	
		b	[00] KP 1; [01] KP 2; [10] KP 3; [11] retry to KP 4	
		c	KP 3 back-up [c,d]	
		d	[00] KP 1; [01] KP 2; [10] retry to KP 3; [11] KP 4	
		e	KP 2 back-up [e,f]	
		f	[00] KP 1; [01] retry to KP 2; [10] KP 3; [11] KP 4	
		g	KP 1 back-up [g,h]	
		h	[00] retry to KP 1; [01] KP 2; [10] KP 3; [11] KP 4	

COMMUNICATION (2)

Channel B

SF-66	1/0	bit	1	0
		a	Character structure: Odd parity	Even parity
		b	Character structure: 8-bit data	7-bit data
		c	Character structure: Parity permitted	prohibited
		d	Character structure: 2 stop bits	1 stop bit
		e	Block size is 512 characters	256 characters
		f	Baud Rate [f,g,h]	
		g	[000] 38400 bps; [001] 19200 bps; [010] 9600 bps; [011] 4800 bps;	
		h	[100] 2400 bps; [101] 1200 bps; [110] 600 bps; [111] 300 bps	

Channel B: PC batch communication

SF-67	1/0	bit	1	0
		a	Data transfer with zero suppression	without zero suppression
		b	DCD monitored before ECR sends data to channel B device (DCD always monitored when channel B device sends data to ECR)	DCD not monitored
		c	With BCC (Block Check Character)	without BCC
		d		
		e		
		f	Remote job message printed on journal	not printed
		g	Record delimiter [g,h]	
		h	[00] CR; [01] CR or LF; [10] CR & LF; [11] LF & LF	

Channel B

SF-68	1/0	bit	1	0
		a		
		b	Tolerance time limit for channel B is 16 sec.	0 sec.
		c	Tolerance time limit for channel B is 8 sec.	0 sec.
		d	Tolerance time limit for channel B is 4 sec.	0 sec.
		e	Tolerance time limit for channel B is 2 sec.	0 sec.
		f	Tolerance time limit for channel B is 1 sec.	0 sec.
		g	Tolerance time limit for channel B is 0.5 sec.	0 sec.
		h	Tolerance time limit for channel B is 0.3 sec.	0 sec.

Bits b~h The tolerance time limit is the maximum time allowed from the end of the data transmission from the ECR to the PC until the first reply data is received. (0.3 ~ 31.8 seconds)

MEDIA (3)

Total 1

SF-69	1/0	bit	1	0
		a		
		b	Total 1 amount rounding method [b,c,d]	
		c	[001] Method 1; [010] Method 2; [011] Method 3; [100] Method 4;	
		d	[101] Method 5; [110] Method 6; [111] No rounding (same methods as [SF-18] are used)	
			Once local currency media is selected by [e~h] below, the rounding method is dependent on [SF-18.f~h].	
		e	Usage of Total 1 key [e,f,g,h]	
		f	[0000] local currency; [0010] local cheque; [1010] food stamp;	
		g	[0100] Euro currency; [0110] Euro cheque;	
		h	[1000] foreign currency (exchanged directly); [1001] foreign currency (exchanged via Euro)	

Bits e~h Once Euro currency is selected, the settings of media amount print/display format and the position of punctuation follow the selections of [SF-13.f~h].

Total 2

SF-70	1/0	bit	1	0
		a		
		b	Total 2 amount rounding method [b,c,d]	
		c	[001] Method 1; [010] Method 2; [011] Method 3; [100] Method 4;	
		d	[101] Method 5; [110] Method 6; [111] No rounding (same methods as [SF-18] are used)	
			Once local currency media is selected by [e~h] below, the rounding method is dependent on [SF-18.f~h].	
		e	Usage of Total 2 key [e,f,g,h]	
		f	[0000] local currency; [0010] local cheque; [1010] food stamp;	
		g	[0100] Euro currency; [0110] Euro cheque;	
		h	[1000] foreign currency (exchanged directly); [1001] foreign currency (exchanged via Euro)	

Bits e~h Once Euro currency is selected, the settings of media amount print/display format and the position of punctuation follow the selections of [SF-13.f~h].

Total 3

SF-71	1/0	bit	1	0
		a		
		b	Total 3 amount rounding method [b,c,d]	
		c	[001] Method 1; [010] Method 2; [011] Method 3; [100] Method 4;	
		d	[101] Method 5; [110] Method 6; [111] No rounding (same methods as [SF-18] are used)	
			Once local currency media is selected by [e~h] below, the rounding method is dependent on [SF-18.f~h].	
		e	Usage of Total 3 key [e,f,g,h]	
		f	[0000] local currency; [0010] local cheque; [1010] food stamp;	
		g	[0100] Euro currency; [0110] Euro cheque;	
		h	[1000] foreign currency (exchanged directly); [1001] foreign currency (exchanged via Euro)	

Bits e~h Once Euro currency is selected, the settings of media amount print/display format and the position of punctuation follow the selections of [SF-13.f~h].

Total 4

SF-72	1/0	bit	1	0
		a		
		b	Total 4 amount rounding method [b,c,d]	
		c	[001] Method 1; [010] Method 2; [011] Method 3; [100] Method 4;	
		d	[101] Method 5; [110] Method 6; [111] No rounding (same methods as [SF-18] are used)	
			Once local currency media is selected by [e~h] below, the rounding method is dependent on [SF-18.f~h].	
		e	Usage of Total 4 key [e,f,g,h]	
		f	[0000] local currency; [0010] local cheque; [1010] food stamp;	
		g	[0100] Euro currency; [0110] Euro cheque;	
		h	[1000] foreign currency (exchanged directly); [1001] foreign currency (exchanged via Euro)	

Bits e~h Once Euro currency is selected, the settings of media amount print/display format and the position of punctuation follow the selections of [SF-13.f~h].

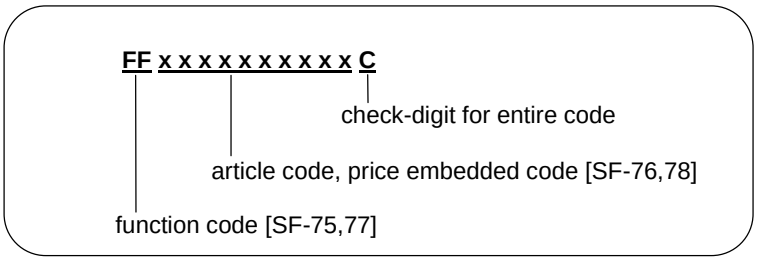
MEDIA (4) / EURO (2)

SF-73	1/0	bit	1	0
		a		
		b	Short tendering amount input of TTL 5 prohibited**{** XE "Not Found PLU (NFP) / Stock Keeping Unit (SKU) entry allowed" **}**	permitted
		c		
		d	Euro-local subtotal display is switched by depression of **SBTL** key Change amount is always displayed in local currency because **SBTL** key is not accepted in the sequence of change.	automatically switched for one second
		e	Calculated amount in local currency not printed when a transaction is closed by Euro or foreign currency	printed
		f	New balance and subtotal amounts printed in local currency only	in local currency and Euro currency **[SF-74.a=0]**
		g	Change amount of over-tendering by Euro media deducted from that's media automatically **[SF-36~39.e=0]**	TTL 5 automatically **[SF-36~39.a=0]**
		h	One space between Euro and foreign currency symbols and the amount **[SF-74.b=0]**	no space **[SF-74.b=0]**

SF-74	1/0	bit	1	0
		a	Due amount in Euro currency with Euro exchange rate not printed unless Euro media key is used Due amount in Euro currency is always printed for Euro tendering.	printed (set [d] for Euro exchange rate)
		b	Euro & currency symbols not printed before the amount figure	printed (see [SF-73.h] also) F.C. symbol is not printed on report. Euro currency symbol is printed.
		c	Foreign currency exchange rate not printed Also available for local currency system.	printed
		d	Euro exchange rate not printed **[a=0]**	printed **[a=0]**
		e	Foreign currency exchange amount rounding method [e,f]	
		f	[00/01] 5/4; [01] rounded up; [10] discarded	
		g	Euro exchange amount rounding method [g,h]	
		h	[00/01] 5/4; [01] rounded up; [10] discarded	

IN-STORE MARKING CODE

The bar codes having function codes 02, 20 ~ 29, 37 are used for the in-store marking code. **Two function codes only are available** on this machine to be selected from 02, 20 ~ 29, 37 by [SF-75,77]. The in-store marking code can have 10 digits of article code if [SF-76,78.e,f] are set to '00'. The article code can also include a price embedded code if [SF-76,78.e,f] are set.



Contents of Bar code (selected by [SF-76,78])			Bar code Format	Maximum Price will be (selected by [SF-76,78], max. 8 digits)			
digits of price field [e,f]	check digit of price field [b]	article code will be		x 1 [g,h=00]	x 10 [g,h=01]	x 100 [g,h=10]	x 1000 [g,h=11]
4 digits (PPPP)	with (c)	5 digits (xxxxx)	FFxxxxxcPPPPC	9999	99990	999900	9999000
	without	6 digits (xxxxxx)	FFxxxxxxPPPPC				
5 digits (PPPPP)	with (c)	4 digits (xxxx)	FFxxxxcPPPPPC	99999	999990	9999900	99999000
	without	5 digits (xxxxx)	FFxxxxxPPPPPC				
6 digits (PPPPPP)	with (c)	not available	not available	999999	9999990	99999900	not available
	without	4 digits (xxxx)	FFxxxxPPPPPPC				
article code only	not used	10 digits (xxxxxxxxxx)	FFxxxxxxxxxxC	no price			

Position of punctuation is set by [SF-2.g,h].

When a price embedded in-store marking code is programmed by PGM-201 by using a scanner, the article code (underlined code in the bar code format above) only is programmed as PLU code. If "function code included in PLU code" [SF-76,78.d=1] is selected, the article code (xx....xx) with 2 digits function code (FF) is programmed as PLU code. See the next page how a non-embedded code is programmed as PLU code.

IN-STORE MARKING CODE 1

SF-75	1/0	bit	1	0
		a		
		b		
		c	Function code of In-Store Marking code [c,d]	
		d	[00] 02; [01] one of 20 ~ 29 (set [e~h] also) ; [10/11] 37	
		e	Function code [e,f,g,h] --- **[c,d=01]**	
		f	[0000] 20; [0001] 21; [0010] 22; [0011] 23; [0100] 24;	
		g	[0101] 25; [0110] 26; [0111] 27; [1000] 28; [1001] 29	
		h		

SF-76	1/0	bit	1	0
		a		
		b	Price field without check-digit (always without check-digit for 6-digit price)	with check-digit
		c		
		d	Function code included in PLU code	not included
		e	Number of digits of Price field [e,f]	
		f	[01] 4-digit; [10] 5-digit; [11] 6-digit; [00] non-embedded code (article code only)	
		g	10th exponent of Price field [g,h]	
		h	[00] x 1; [01] x 10; [10] x 100; [11] x 1000	

IN-STORE MARKING CODE 2

SF-77	1/0	bit	1	0
		a		
		b		
		c	Function code of In-Store Marking code [c,d]	
		d	[00] 02; [01] one of 20 ~ 29 (set [e~h] also) ; [10/11] 37	
		e	Function code [e,f,g,h] --- **[c,d=01]**	
		f	[0000] 20; [0001] 21; [0010] 22; [0011] 23; [0100] 24;	
		g	[0101] 25; [0110] 26; [0111] 27; [1000] 28; [1001] 29	
		h		

SF-78	1/0	bit	1	0
		a		
		b	Price field without check-digit (always without check-digit for 6-digit price)	with check-digit
		c		
		d	Function code included in PLU code	not included
		e	Number of digits of Price field [e,f]	
		f	[01] 4-digit; [10] 5-digit; [11] 6-digit; [00] non-embedded code (article code only)	
		g	10th exponent of Price field [g,h]	
		h	[00] x 1; [01] x 10; [10] x 100; [11] x 1000	

PLU code programmed for non-embedded code (article code only) [SF-76,78.e,f=00]

When a non-embedded code of in-store marking code is programmed by PLU code programming (PGM-201) by using a scanner, the underlined code in the box below is programmed as PLU code according to flag selections;

- Function code included in PLU code or not [SF-76,78.d]
- 10-digit article code with or without the check digit is programmed as PLU code [SF-62.d]

FFxxxxxxxxxC --- [SF-76,78.d=0, SF-62.d=0]

FFxxxxxxxxxC --- [SF-76,78.d=0, SF-62.d=1]

FFxxxxxxxxxC --- [SF-76,78.d=1, SF-62.d=0]

FFxxxxxxxxxC --- [SF-76,78.d=1, SF-62.d=1]

PROGRAMMING REFERENCE

ADJUSTMENT

Makes mark-up/down calculations on specified items only at a preset rate just before a transaction is finalized.

1. Assign the adjustment keys. (PGM-101, key #187, 188, 189) --- Page 8
   Preset the adjustment key names. (PGM-102, #11, 12) --- Page 29
2. Preset the adjustment polarity 'mark-up/-down' [SF-41,42.h].
3. Preset the adjustment rates. (PGM-347) --- Page 33
4. Preset each PLU as adjustable 1, 2, 1 & 2 or non-adjustable by [PF-1.e,f]. --- Page 16

< OPTIONS >

- adjustment requires to turn the control key to Z1/P or R position [SF-33.e,f]
- adjustment affects or does not taxable subtotal [SF-41,42.d~g]

CASHIER

1. Perform 'secret cashier code' programming. (PGM-211) --- Page 36
2. Preset cashier names. (PGM-212) --- Page 29
3. Assign Hard Cashier keys on the keyboard if required (PGM-101, key #140 ~ 154) --- Page 8

< OPTIONS >

- cashier entry compulsory before each transaction [SF-11.g]
- sales type 1 ~ 4 PLU amounts added to each cashier sales memory with/without VAT amount [SF-27.c]
- sales type 1 ~ 4 PLU amounts added to grand total / cashier sales total [SF-28]

CHEQUE-CASHING / CURRENCY EXCHANGE

When a cheque is cashed or a foreign currency is exchanged, ECR automatically subtracts a service charge amount, calculated according to a programmed rate.

1. Preset the charge rate. (PGM-377) --- Page 33
2. Select the media key used for cheque-cashing / currency exchange by [SF-17.e~h].

COMMISSION RATE AND SALES TYPE

PLUs can be classified into maximum four sales types, which can have different commission rates preset.
The cashier sales memory records sales data by sales type classification.

USES: - Different commission rates for items of different profitability.
- A separate sales type for separate sales control of specific items, e.g. cigarettes sold at a restaurant.

1. Designate a sales type to each PLU by [PF-1.c,d]. --- Page 16
2. Preset commission rates 1 ~ 4, which corresponds to sales types 1 ~ 4 respectively. (PGM-357) --- Page 33

< OPTIONS >

- sales type 1 ~ 4 PLU amounts added to each cashier sales memory with/without VAT amount [SF-27.c]
- sales type 1 ~ 4 PLU amounts added to grand total / cashier sales total [SF-28]

EURO CURRENCY

1. Select 'Euro currency system' [SF-13.e].
2. Select Euro media key by [SF-69~72.e~h].
3. Select position of punctuation for Euro media by [SF-13.g,h].
4. Preset the local/Euro currency exchange rate. (PGM-397) --- Page 35
5. Preset the local/Euro currency message. (PGM-102, #53) --- Page 29

< OPTIONS >

- Print/display format of Euro currency amount [SF-13.f].
- Euro VAT tax and taxable subtotal amounts in Euro currency always printed [SF-24.a]
- Euro/local subtotal display is switched by pressing **SBTL** key [SF-73.d]
- calculated amount in local currency not printed when a transaction is closed by Euro or foreign currency [SF-73.e]
- change amount of over-tendering by Euro media deducted from that media automatically/Total 5 [SF-73.g]
- one space between Euro and foreign currency symbols and the amount [SF-73.h]
- due amount in Euro currency with Euro exchange rate not printed unless the Euro media key is used [SF-74.a]
- Euro & currency symbols not printed before the amount figure [SF-74.b]
- Euro currency exchange rate printed [SF-74.d]
- Euro exchange amount rounding method [SF-74.g,h]

FOOD STAMP

Every PLU can be programmed as a food stamp item or non-food stamp item.
When the food stamp system is selected, the tax method should be set to the add-on tax method. Then only tax 1 ~ 3 are available.

1. Select 'food stamp system' by [SF-3.g].
2. Select 'add-on tax method' by [SF-21.f~h].
3. Select 'food stamp item' for each food stampable PLU by [PF-3.a]. --- Page 16
4. Select 'food stamp media' by [SF-69~72.e~h].
5. Assign **FOOD STAMP SBTL** key (key #229) on the keyboard. (PGM-101) --- Page 7.

< OPTIONS >

- food stamp type is Illinois type or general type [SF-3.f]
- food stamp symbol is printed [SF-22.d]

FOREIGN CURRENCY

Refer to the rate programming section (PGM-387) Foreign Currency Exchange Rate. --- Page 35

GROUPING

Three group categories are available, enabling detailed sales analysis.
Monitoring of:

- Wholesalers
- Lunch and dinner PLUs
- Sales by time shift
- Different promotions and display
- Item with long and short lead time
- Customer counter

Group-A & Group-B :

Each PLU has to be linked to one of 98 groups in Group-A.
PLUs not linked to a Group-A can not be registered.
Each PLU may also have another type of link group, Group-B. Up to 25 Group-Bs are available.

1. Link PLUs to Group-As or Bs. (PGM-203) --- Page 14
2. Preset Group-A or B descriptors. (PGM-222, 232) --- Page 29

Main Group-A:

Every Group-A can be linked to one of 10 general categories in main Group-A.
Sales data for Group-As can be consolidated under their link main Group-As.

1. Link Group-As to main Group-As. (PGM-223) --- Page 21
2. Preset main Group-A descriptors. (PGM-242) --- Page 29

LINK PLU

Every PLU can have a single link PLU. When a PLU with a link PLU is registered, the link PLU is also registered automatically, and the total amount of PLU and link PLU will be displayed. Each PLU can have a total of up to 9 PLUs linked each other.
Program PLU links. (PGM-204) --- Page 20
<OPTIONS>
- to print or not to print PLU on the receipt [PF-1.a] --- Page 16

MENU SHIFT

Three different PLUs can be allocated to each Hard PLU key on three different levels. The set of PLUs allocated on each level is called a menu.

1. Determine the conditions of the PLUs used on each menu.
2. Select menu levels and assign PLU codes on the keyboard. (PGM-111) --- Page 22
3. Allocate menu shift keys on the keyboard. (PGM-101, key #134, 135) --- Page 8

< OPTIONS >

- duration of menu shift [SF-52.g,h]
  Until the next menu shift key is pressed; for one transaction; for one item registration
- the menu shift keys are allowed in X or R position [SF-52.d]

PLU

Refer to the PLU and Group programming section. --- Page 11

PLU MODIFIER

By using one of the three modifier keys, one Hard PLU can be changed to three different PLUs. Each modifier key is given a two-digit modifier value (the left digit shows value and the right digit shows number of digits).

1. Assign PLU modifier keys. (PGM-101, key #136, 137, 138) --- Page 8
2. Set modifier values. (PGM-109) --- Page 21
3. Set [PF-2.a] to allow PLU modifier. --- Page 16
4. Set suitable PLU codes to modify as well as descriptors, prices, link groups.

< OPTIONS >

- duration of PLU modifier [SF-53.a,b]
  Until the next modifier key is pressed; for one transaction; for one item registration
- the PLU modifier keys are allowed in X or R position [SF-52.b]

PRICE SHIFT

1. Preset two prices to PLUs. (PGM-305) --- Page 14
2. Allocate the price shift key on the keyboard. (PGM-101, key #168) --- Page 8

< OPTIONS >

- duration of price shift [SF-52.e,f]
  Until the next price shift key is pressed: happy hour; for one transaction : discount for special customer; for one item registration : item discount, special price
- the price shift key is allowed in X or R position [SF-52.c]

SINGLE ITEM

1. Preset each PLU as single item 1, 2 or non-single item by [PF-1.g,h] --- Page 16
2. Select the media by which transaction will be automatically closed by [SF-16.f~h].

STOCK CONTROL

Refer to PLU/Group stock programming (PGM-406/426) for the procedure. --- Page 23

There are 7 stock rates for inventory control and it reduces the stock by any eight digit amount for each item sold.

Group-A Stock Control

This can be used for items to which different PLU is reflected in the same stock, i.e., gallons of vanilla ice cream can be tracked in Group-A with the cumulative total of single, double and triple sales.

For example, half pint (0.28 liter) Lager Beer PLU can be programmed with a half pint stock rate that can also be used for half pint Draft Beer.

The same rates are used for inventory analysis with group-A: Group-A Lager Beer sales and stock can be adjusted by 0.28 liters for one PLU and by 0.57 liters for another.

PLU Stock Control

This is most useful for piecemeal selling items, such as canned goods and bottled goods for which each PLU is a separate item (e.g. "bottle" and "can" PLUs in group-A "Orange Juice").

STOCK RATE #	1	2	3	4	5	6	7
STOCK RATE (PGM-367)	0.28	0.57	100	200	300	---	---
UNIT NAME (PGM-112)	Lit	Lit	g	g	g	---	---

GROUP-A	PLU	STOCK RATE #	STOCK CONTROL	INITIAL STOCK	SALES QUANTITY	CURRENT STOCK
Lager Beer	PINT HALF PINT	2 1	by Group-A	10 liters	1 (0.57 Lit) 3 (0.84 Lit)	8.59 liters
Draft Beer	PINT HALF PINT	2 1	by Group-A	10 liters	0 1 (0.28 Lit)	9.72 liters
Vanilla Ice Cream	SINGLE DOUBLE TRIPLE	3 4 5	by Group-A	10,000 g (= 10 kg)	1 (100 g) 1 (200g) 0	9,700 g
Orange Juice	BOTTLE CAN	not used not used	by PLU	30 70	0 1	30 69

TICKET

1. Select 'ticket system' [SF-1.b].
2. Select 'single ticket PLU or combined ticket PLU' for each PLU [PF-3.f]. --- Page 16

< OPTIONS >

- consecutive ticket number printed [SF-2.a]
- consecutive ticket number not reset after Z-01 report [SF-26.e]
- logo printed on ticket [SF-6.e]
- allocate **SINGLE TICKET OFF** key on the keyboard (PGM-101, key #217) --- Page 8

TIP OPERATION

1. Allocate **TIP** key on the keyboard. (PGM-101, key #182) --- Page 8
2. When change is kept as tip, to permit change calculation by TTL 1 ~ 4;
   - Set 'change operation permitted' [SF-16.a~d=1].
   - Set 'change amount of over-tendering by this media deducted from media designated by Total 1 ~ 4 [SF-36~40.a=1].

TRACK SYSTEM

Allocate **TRACK / NEW BALANCE** (key #128) on the keyboard (PGM-101). --- Page 7

< OPTIONS >

See the system function flags [SF-47].

IV. REPORTS

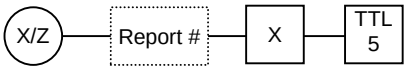
REPORT SEQUENCE

Set the control key to **X, Z1 or Z2 position** and use the report sequence below;

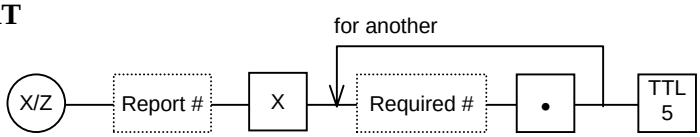
- 1st level for daily report : X (read only) position or Z1 (reset) position
- 2nd level for periodic report : X (read only) position or Z2 (reset) position

For Z report issue and report format, there are some programming restrictions. Refer to system function flags [SF-26~29].

FULL REPORT



INDIVIDUAL REPORT



Cashier report: Enter the sequential cashier number (not secret cashier code).

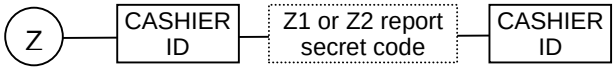
SEQUENTIAL REPORT

PLU report: Enter PLU codes for the start and end numbers.

HOW TO ENTER Z1/Z2 REPORT SECRET CODE

When 'Z report issued by control key and secret code' [SF-26.h] is programmed, before a report sequence is done, do the following operation;

Set control key to the Z1 or Z2 position.



Enter the codes programmed
by PGM-131, 141.

Issue the report using the sequence above.

TRANSACTION REPORT	REPORT #		REPORT SEQUENCE		
	1st level (X / Z1)	2nd level (X / Z2)	Full	Individual	Sequential
Auto Full Transaction	1	2	o		
Full Transaction (**X position** only)	3	4	o		
Hourly	5	6	o		
Grand Total 1	---	7	o		
Cash In Drawer	8	---	o		
Cashier	10	11	o	o	
Main Group-A	20	21	o		
Group-A per Main Group-A	22	23	o	o*	
Group-A	25	26	o	o*	
Group-A Stock	---	27	o		
Group-B	30	31	o	o*	
PLU	40	41	o	o*	o
PLU Stock	---	42	o	o*	o
Non-Active PLU (**X position** only)	43	44	o		
Menu 1 PLU (**X position** only)	50	51	o		
Menu 2 PLU (**X position** only)	52	53	o		
Menu 3 PLU (**X position** only)	54	55	o		
Group-A PLU	56	57	o	o*	
Group-B PLU	58	59	o	o*	
Track Total (**X position** only)	60	---	o	o	o
Track (set [SF-29.a] for Z report)	---	62	o	o	

* Individual Z report is permitted by [SF-26.c=1].

Set the control key to **X position** for all program dumps except for cashier dump.

PROGRAM DUMP	REPORT #	REPORT SEQUENCE		
		Full	Individual	Sequential
Full Program	80	o		
Main Group-A	81	o		
Group-A	82	o		
Group-B	83	o		
Key Layout	84	o		
Function Ruler for cheque printed on slip if [SF-57.d=1]	85	o	o See table below.	
Key & Symbol Name	86	o		
Tax	87	o		
PLU	88	o		o
Cashier (**Z2 position**)	89	o		
Menu Layout	90	o		

Required # for Individual Function Program Dump (X-85)

#	Report Contents	#	Report Contents
1	system function flag	22	plus amount
2	media amount, foreign currency exchange rate, Euro currency exchange rate	23	adjustment rate
3	number of programmed PLUs, PLU modifier value	24	cheque-cashing/currency exchange rate
4	terminal address	25	PLU sales commission rate
5	slip printer ID number	26	PLU stock rate, stock unit name
10	cashier name	40	arrangement key sequence
20	% rate	41	cheque printing data
21	discount amount		

IRC REPORT SEQUENCE

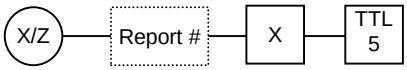
Collecting Transaction Data from Slaves

There are two kinds of IRC reports issued by the master ECR;
One is a ***consolidated report*** for all ECR's sales data and
the other is an ***individual report***, by designating the slave ECR by using the sequence below;

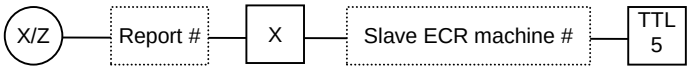
Set the control key to **X, Z1 or Z2 position**.

- 1st level for daily report : X (read only) position or Z1 (reset) position
- 2nd level for periodic report : X (read only) position or Z2 (reset) position

CONSOLIDATED (ALL ECRs) REPORT



INDIVIDUAL (PER ECR) REPORT



IRC REPORT	REPORT #		REPORT SEQUENCE		
	1st level (X / Z1)	2nd level (X / Z2)	All ECRs consolidated	Per ECR individual	
Auto Full Transaction	8801	8802	o	o	
Hourly	8805	8806	o	o	
Main Group-A	8820	8821	o	o	
Group-A Stock	---	8827	o	o	Note
Group-B	8830	8831	o	o	
PLU	8840	8841	o	o	
PLU Stock	---	8842	o	o	Note
Track	8862	---	*	o	

***** Consolidated report is not available for track report. However, if PC communication module Tensai2000 is used as an IRC master, you can take individual report from all ECRs at one time. In order to have the consolidated report data, add the individual report data together on PC.

Note: **Consolidated Z report:** the stock of slave ECRs is added to master ECR's stock memory and cleared to zero.
Individual Z report: the stock of designated slave ECR is **not added** to master ECR's stock memory but it is cleared.
Both reports do not clear master ECR's stock memory. Issue Z-27/42 reports on the master to clear.

The master ECR can collect the slave ECR's sales data only when the slave ECR is in an idle condition (no other communication, no transaction). When the slave ECR is transmitting sales data to the master, the display shows "**> IRC COMM**" and ECR locks until IRC communication stops.

The following IRC reports are printed on the master and slave ECRs respectively.
'IRC Z report printed or not printed' [SF-29.b] can be programmed also.

		Master prints	Slave prints
Consolidated X-report		a consolidated report	a confirmation report on journal only
Individual X-report		a designated slave's report	a confirmation report on journal only
Consolidated Z-report	printed [b=0]	own report and a consolidated report with IRC status	own report
	not printed [b=1]	own confirmation report and a consolidated report with IRC status	a confirmation report on journal only
Individual Z-report	printed [b=0]	a designated slave's report with IRC status	own report
	not printed [b=1]	a designated slave's report with IRC status	a confirmation report on journal only

PROGRAM DUMP CONTENTS

FULL PROGRAM (80)

Consists of following five separate reports 81 ~ 85.

MAIN GROUP-A (81)

```
X-81
MG 01    MAIN GP-01
```

main group-A number 1 ~ 10, descriptor

GROUP-A (82)

```
X-82
GA 01    GROUP-A-01  01
-----------------------
```

group-A number 1 ~ 98, descriptor, link main group-A number

GROUP-B (83)

```
X-83
GB01 GROUP-B-01
```

group-B number 1 ~ 25, descriptor

KEY LAYOUT (84)

```
X-84
KEY-001-002-003-004-005-
    133 132 131 130 129
```

(Refer to Key Layout programming for numbers.)
key position number
key function number

FUNCTION (85)

```
X-85
01A   CASHIER NAME 001
          :
23Y   CASHIER NAME 023
-----------------------
%  1          10    %
%  2           5    %
%  3           3    %
-----------------------
AJST1         10    %
AJST2         20    %
-----------------------
CHEQUE        10    %
-----------------------
Q-1          1.0  kg
          :
-----------------------
S1   CM        0    %
S2   CM        5    %
S3   CM       10    %
S4   CM       15    %
-----------------------
DSCNT        20.00
PLUS         10.00
-----------------------
CHECK         5.00
FC MEDIA       .00
            0.1234*
          :
CASH        100.00
-----------------------
EURO        0.15128
-----------------------
ARNG1
128-197-
-----------------------
CQ-1      Y:06 X:02
  :         :
CQ-9        06  dots
-----------------------
PLU              4480
MDF1-301 MDF2-302
MDF3-203
-----------------------
ID#      A
-----------------------
S#01               1
-----------------------
  SF-01 --- 00000100
          :
-----------------------
5400-01-V1.00
```

cashier sequential number 1 ~ 23, 1-digit fixed or 2-digit programmable cashier symbol, name

cashier symbol [SF-11.a=0] (2-digit cashier symbol is programmed by SP-212.)

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
A	B	C	D	E	F	G	H	J	K	L	M
13	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	
N	P	Q	R	S	T	U	V	W	X	Y	

% rate 1 ~ 3

adjustment rate 1, 2

cheque-cashing/currency exchange charge rate

stock rate 1 ~ 7 with stock unit name

sales commission rate 1 ~ 4

discount amount
plus amount

media amount 1 ~ 4

foreign currency exchange rated (printed if programmed)

Euro currency rate

arrangement key sequence 1 ~ 4 (printed if programmed)
(Refer to Key Layout programming for key function number.)

cheque printing data --- CQ-1 ~ 8 shows the item numbers 1 ~ 8
Y: line number, X: column number
the number of dot spaces between the lines

number of programmed PLUs
PLU modifier value 1 ~ 3

terminal address for PC communication

slip printer ID number

system function flag data

ECR model - software type - ROM version

KEY & SYMBOL NAME (86)

```
X-86
N 01 CHECK
          :
-----------------------
S 01    ECR NAME
S 02    K.NAME01
S 03    K.NAME02
S 04    K.NAME03
S 05    K.NAME04
-----------------------
L01 LINK MESSAGE-#  01
          :
```

key & symbol number, name
(Refer to Key/Symbol programming for number.)

ECR name
kitchen printer names 1 ~ 4

supplementary message number, message

TAX (87)

```
X-87
V
 TAX  1      10    %
 TAX  3      30    %
 A
 TAX  2
       .00         .10
       .01 I       .21
       .02 I       .38
       .03 I       .56
       .04 I       .73
       .05 I       .91
       .06 I      1.08
       .07 I      1.24
       .08 I      1.41
       .09 R      1.58
       .10 R      1.74
       .11 R      1.91
 TAX  4       5    %
       .00         .00
```

VAT system symbol
VAT tax rate

add-on tax system symbol
tax table has been programmed
tax exemption limit amount
tax amount, I/R (I: irregular part / R: regular part), breakpoint

straight tax rate

PLU (88)

```
X-88
P----------------1#
   PLU-NAME 0001
         1#  -98-
     1P           1.00
     2P           1.10
 F1-00000000 F2-10000001
 F3-00000000 F4-00000000
 F5-00000000 F6-00000000
LP------------------10#
   PLU-NAME 0010
LM--------------------1#
GA           GROUP-A-01
GB           GROUP-B-01
```

PLU code
PLU descriptor
PLU sequential number, HALO (left digit: value, right digit: # of digits)
1st price
2nd price
PLU function flag data

link PLU code (*)
link PLU descriptor (*)
link supplementary message number (*)
link group-A descriptor
link group-B descriptor (*)

(*) printed if programmed

CASHIER (89)

```
Z-89
C 01A         1
              :
C 23Y         ****
```

cashier sequential #01 ~ 23, 1-digit fixed or 2-digit programmable cashier symbol [SF-11.a], secret cashier code
**** indicates unused cashier code

1-digit fixed cashier symbol [SF-11.a=0] (2-digit cashier symbol is programmed by SP-212.)

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
A	B	C	D	E	F	G	H	J	K	L	M
13	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	
N	P	Q	R	S	T	U	V	W	X	Y	

MENU LAYOUT (90)

```
X-90
H001
  A     P-----------1#
    PLU-NAME 0001
  B     P----------50#
    PLU-NAME 0050
  C     P---------100#
    PLU-NAME 0100
```

hard PLU key number
A: menu 1, assigned PLU code
   assigned PLU descriptor
B: menu 2

C: menu 3

V. SERVICE PROGRAMMING

INITIAL RESET

This operation must be performed after any of the followings;

- machine block
- machine repair
- replacement of other ROM

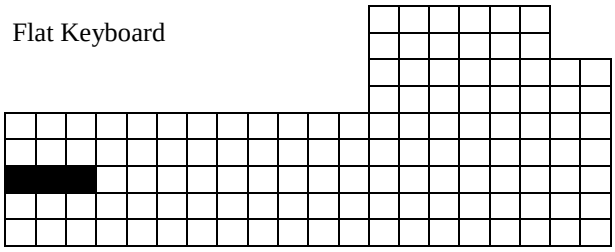
The initial reset operation does not clear any programming or sales data.

Perform the following operations:

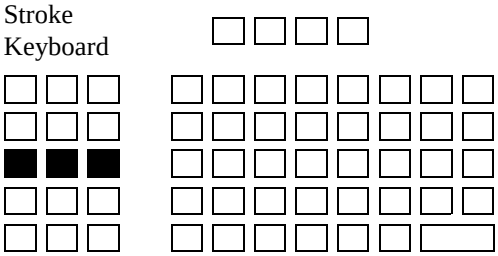
1. **Disconnect the AC cord** and turn the control key to SP position.

2. While pressing the following three keys at the same time, connect the AC cord.

Flat Keyboard



Stroke Keyboard

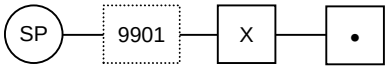


The `---- ir ----` message will be displayed.

TEST PROGRAMS

RAM TEST

This test diagnoses the functioning capability of each RAM.
The testing **process automatically erases all RAM contents (all programming and sales data).**

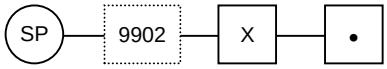


DISPLAY MESSAGES OF RAM TEST

- - - - - - - - - - - -	Displayed during RAM test. RAM test is completed with this message and P sound.
EEEEEEEEEEEE	Shows the system error with buzzer sound. Disconnect AC cord. Contact your distributor.

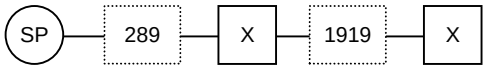
ROM TEST

Model name - type - ROM version, check-sum and on-bit are printed on the receipt and journal. Only the on-bit is displayed. This test **does not erase** the RAM contents. (It takes about one minute to check.)



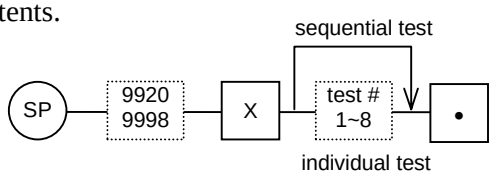
PLU DATA ERASE

This operation **erases all PLU programming data**. Other programs will not be erased.



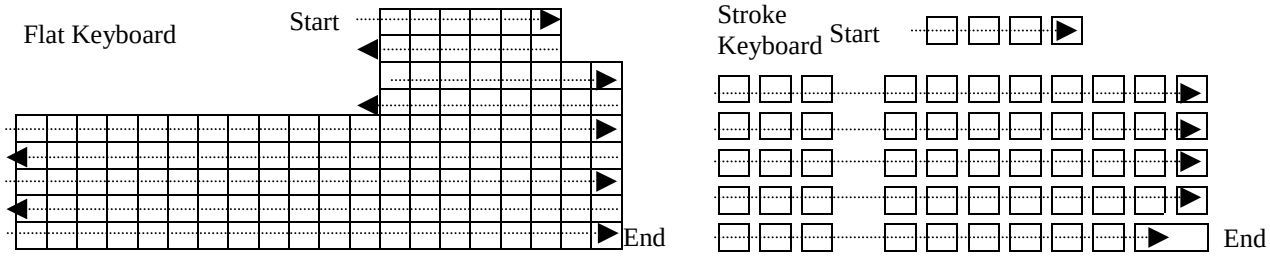
HARDWARE TEST

This test is required after the machine was repaired, parts replaced or the hardware modified. This test does **not** erase RAM contents.



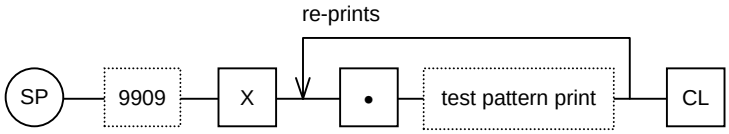
		OPERATION	DISPLAY	REMARKS
TEST START		SP-9920: see sequence above	P-9920	includes auto preset
		SP-9998: see sequence above	P-9998	does **not** include auto preset
RAMS	**1**		- - - - - - - - - - - -	This test does **not** erase RAM contents. "RAM --" is printed if an error occurs.
DISPLAY	**2**			Check all segments and marks by displaying them. (Finish automatically)

		OPERATION	DISPLAY	REMARKS
KEYBOARD	**3**	Press all keys following the direction as shown below:	-nn- (nn shows key code)	Check the key catch buzzer. "KEY --" is printed if an error occurs. (Finish automatically)



CONTROL KEY	**4**	Turn the control key from the SP to Z2 position **slowly**.	SP 5555 OFF ---- R 4444 X 3333 Z1/P 2222 Z2 1111	Turn the control key to SP position **slowly** and test finishes automatically. "CTL --" is printed if an error occurs, then press **CL** key for the next test.
SENSORS	**5**		DRJV --- nnnn ---	n = 0 or 1
Drawer sensor (option)		Press **1** key.	--- 1000 ---	Check drawer opened. Display is not changed without drawer sensor.
Receipt sensor (option)		Lift the receipt roll.	--- 0100 ---	This test is not required if the sensor is not installed.
Journal sensor (standard)		Lift the journal roll.	--- 0010 ---	
Validation sensor (factory option)		Insert validation paper.	--- 0001 ---	Factory optional validation sensor required. Press **CL** key for the next test.
INTERFACE	**6**		Good	An exclusive jig is required. "I/F Error nn" is displayed and "I/F --" is printed if an error occurs, then press **CL** key for the next test. (Finish automatically)
PRINTER	**7**	Press **RPF** key. Press **JPF** key	n-0 A-1	Check receipt/journal paper feed mechanism.
		Press **0** for manual-cut printer		Check if characters are printed correctly.
AUTO PRESET		(automatic)		SP-9920 only
ROM TEST	**8**	(automatic)	displays on-bits	It takes about one minute.
TEST END				Test completed with ROM version, on-bits and check-sum printing.

TEST PRINT



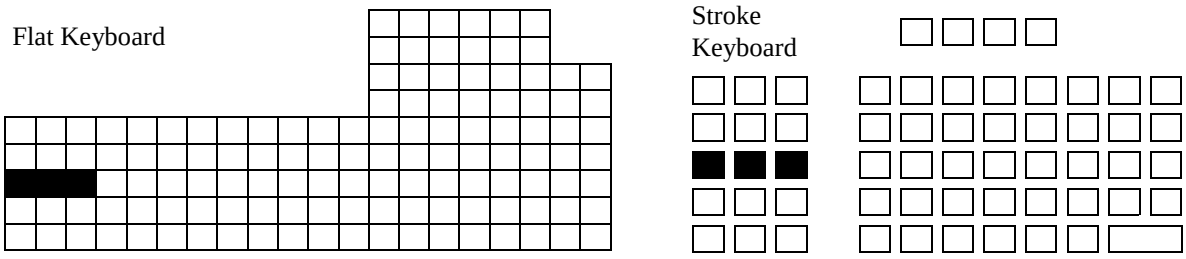

```
--- TEST PRINT START ---
      special characters
            numbers
        upper case letters
        lower case letters
    94 programmable characters
    (Arabic characters are set
          by Auto Preset.)
---   TEST PRINT END   ---
```

AUTO PRESET

When the ECR is shipped from the factory, the auto preset has already been done. If the reprogramming of the standard key layout or the auto preset is required, perform the following sequences. Refer to the end of this section for details of the key table selection and key table transfer.

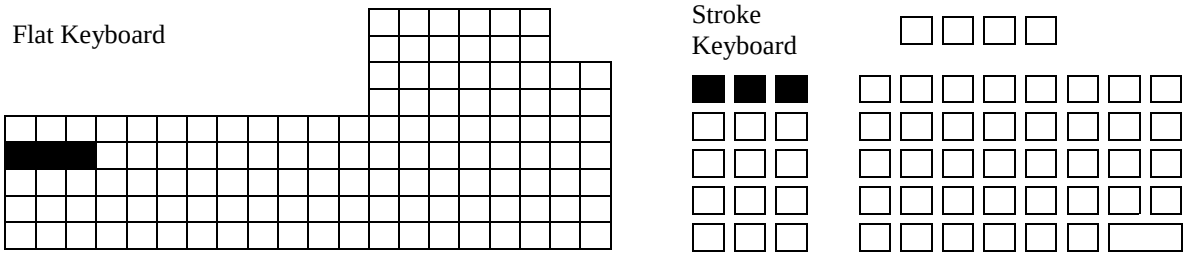
(1) INITIAL RESET

Disconnect AC cord and turn the control key to the SP position.
While pressing these three keys below, connect AC cord.

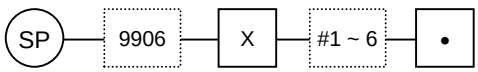


(2) KEY TABLE SELECTION

Disconnect AC cord and turn the control key to the SP position.
While pressing these three keys below, connect AC cord.
Select **[C0]** or **[F0]** for the fixed key table. (Repeat this operation to toggle.)



(3) AUTO PRESET

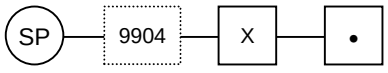


Enter 1 for standard
2 for Germany
3 for France
4 for Spain
5 for UK
6 for USA

```
      5-line logo

      JAN29/2002
* PRESET#-1 *
#001-000000      01:43P
```

(4) KEY TABLE TRANSFER



(5) KEY TABLE SELECTION

Do the same operation in (2) above.
Select **[C1]** or **[F1]** for the programmable key table.

Note for Key Table Selection

There are two key tables in the memory:
A **fixed key table** with the standard key layout (indicated in I. STANDARD KEY LAYOUT) and a **programmable key table**.

When the ECR is shipped from the factory, the programmable key table is selected with the standard key layout preprogrammed.

Key layout programming is possible only on the programmable key table [C1] or [F1].

If desired, a fixed key table can be used although the contents of the programmable key table are saved. Select [F0] or [C0] by the key table selection. After this operation is done, [F0] or [C0] is displayed for one second, depending on which keyboard is used. If this operation is done again, the programmable key table will be chosen, displaying [F1] or [C1].

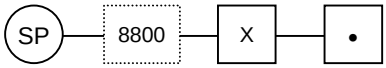
DISPLAY	KEYBOARD SELECTION	KEY TABLE SELECTION
[F0]	flat keyboard	fixed key table
[F1]	flat keyboard	programmable key table
[C0]	stroke keyboard	fixed key table
[C1]	stroke keyboard	programmable key table

Note for Standard Key Table Transfer SP-9904

Also, the fixed key table contents, i.e. the standard key layout, can be transferred (copied) to the programmable key table by the SP-9904 operation. This is particularly useful if considerable key reallocations have been made and a return to the original standard key layout is required.

IRC PROGRAM DATA TRANSFER

Before transferring the program data, check that the IRC status check (SP-8800) on the master has been done. The master ECR will check up to ECR sequential number 62, even when there are fewer than 31 ECRs on the IRC line. After this operation, all ECR's that are connected on the system become operative for IRC communication, and the IRC system configuration table is printed.



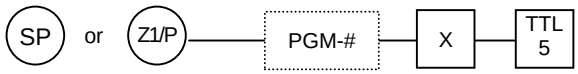
Using the sequence below, the master ECR's programming data is transmitted to a designated slave ECR or to all slave ECRs.

Before doing the all programming data transfer '8999', make sure the keyboard type.
If the keyboard types are different and the program data transfer is required, perform the data transfer and then reprogram the key layout on the slave ECR by performing steps 1 to 5 (except step 3) of the AUTO PRESET on page 83.

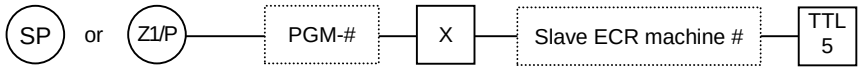
After the program data is transferred, the confirmation report is issued on the master and also on each slave ECR where data transfer was successful. On slave ECR's where transfer was not successful, no report is issued.

PROGRAMMING DATA TRANSFER SEQUENCE

To all slave ECRs



To a designated slave ECR



KEY POSITION	PGM-#	CONTENTS
SP	**8999**	All programmings except PLU stock, Group stock, ECR name, Machine number, Date, Time and Terminal address for PC batch communication
Z1/P	**8901**	% rate, Foreign currency exchange rate and Euro currency rate
	8902	All PLU programmings except stock **(should not be done when the slave ECRs have the sales data)**
	8903	All Group programmings

VI. WARNING MESSAGES

The messages are displayed showing on abbreviation followed by a warning number.

EE-xx	SYSTEM **E**RROR	uE-xx	**U**NALLOABLE OPERATION
dE-xx	INPUT **D**ATA ERROR	LE-xx	**L**IMIT ERROR
IE-xx	**I**NPUT COMPULSORY	cE-xx	**C**OMMUICATION ERROR
PE-xx	**P**APER CONDITION		

EE-00	System error: Perform the initial reset operation. If it does not work, disconnect AC cord and contact your distributor.
EE-01	Printer error: Disconnect AC cord and then back on or check the printer. If "printer with automatic cutter [SF-10.h=1] has been set on ECR which has the manual cutter specification, this message is displayed. Perform the initial reset operation, then set 0 to [SF-10.h].
dE-02	Input figure over limitation: Press **CL** key. (PLU HALO can be omitted temporarily by using **HALO RELEASE** key)
IE-03	Cashier is not signed on.
IE-04	Item or media validation is compulsory: Print item or media validation by **MISC. VALID** key. (can be omitted temporarily by using **OFF COMPULSORY** key)
IE-05	Total validation is compulsory: Print total validation by **TTL. VALID** key. (can be omitted temporarily by using **OFF COMPULSORY** key)
PE-06	Validation paper has not been inserted. (factory optional validation sensor is required)
PE-07	Validation paper has not been removed. (factory optional validation sensor is required)
IE-08	Message input is compulsory. (can be omitted temporarily by using **OFF COMPULSORY** key)
IE-10	Number of persons input is compulsory. (can be omitted temporarily by using **OFF COMPULSORY** key)
IE-11	SBTL key depression is compulsory before tendered amount input. (can be omitted temporarily by using **OFF COMPULSORY** key)
uE-12	Tax table is not preset: Enter a tax amount manually. Preset tax table.
IE-13	Tendered amount input is compulsory. (can be omitted temporarily by using **OFF COMPULSORY** key)
uE-14	Drawer is open. (optional drawer open sensor is required)
IE-15	Cash declaration is compulsory. (can be omitted temporarily by using **OFF COMPULSORY** key)
LE-16	Registration buffer is almost full: Only a few more items can be entered. Prepare to close the transaction.
LE-17	PLU stock is zero or negative: Enter stock by programming. Displays when [SF-53.h=1] is set. (can be omitted temporarily by using **HALO RELEASE** key)
PE-18	Journal paper near end: Replace with new paper roll. Displays when [SF-2.e=1] is set. (can be omitted temporarily by using **OFF COMPULSORY** key)
cE-19	Program loader module (PC) communication error / ECR to ECR RAM data transfer error: Check the cable connection. Refer to the INTERFACES & PERIPHERALS MANUAL for details.
PE-21	Slip printer is busy: Press **CL** key and wait for the printer to be available. Press 'PRINT' on the printer to proceed with the slip.
uE-22	Short tendering amount input of TTL 5 prohibited [SF-73.b=1]
uE-28	Simple condiment PLU entry prohibited: Enter Main PLU first.
IE-29	Simple condiment PLU entry compulsory. (can be omitted temporarily by using **OFF COMPULSORY** key)
EE-30	PLU not found: Enter correct PLU code or program the PLU code.
PE-32	Slip paper has not been inserted.
LE-33	Registration buffer is full: Close the transaction by a media key or **TRACK/NEW BAL.** key.
LE-34	Track memory is full: Close the temporarily closed tracks by a media key.

IE-35	New balance closing is compulsory. (can be omitted temporarily by using **OFF COMPULSORY** key)
uE-36	New balance closing is prohibited.
IE-37	Track number input is compulsory. (can be omitted temporarily by using **OFF COMPULSORY** key)
IE-39	Cooking message input is compulsory. (can be omitted temporarily by using **OFF COMPULSORY** key)
IE-42	Slip print is compulsory. (can be omitted temporarily by using **OFF COMPULSORY** key)
dE-48	PLU code check digit error: Enter correct PLU code.
dE-49	PLU code price check digit error of in-store marking code: Enter correct PLU code.
uE-51	This PLU is not programmed as a master PLU for Not Found PLU entry
uE-52	Not Found PLU has not been entered
dE-63	Preparations for Euro conversion are not completed. ([SF-13.e=1], PGM-397, PGM-101)
dE-64	Entered numbers for Euro conversion sequence is not correct.
cE-65	Scanner communication error
cE-70	IRC line (RS485) is busy.
cE-71~74	Kitchen printer 1~4 error: Confirm the setting of the printers. Refer to the INTERFACES & PERIPHERALS MANUAL for details.
cE-75	Slip printer error
EE-99	It indicates that ECR data might be collapsed because of a low battery condition by battery discharge while ECR is in stock for a long period. Perform Physical RAM Test and Auto Preset, then leave ECR ON for minimum of 3 hours for battery charge.

MISCELLANEOUS MESSAGES

---- ir ----	Initial reset operation is accepted.
--Pc comm---	In PC batch communication
Pc com Error	PC batch communication error
-- Pc- in --	Transferring ECR RAM data to another ECR or peripheral
-- Pc-out --	Receiving ECR RAM data from another ECR or peripheral

IRC MESSAGES

Following messages are displayed on the master ECR or the slave ECRs in the IRC communication. Even when the ECR is in the OFF position, these messages are displayed.

xxP-8800	Displayed on master ECR when master ECR is performing the IRC status check operation. (xx: a slave ECR ID number)
xxxP-#### nn	Displayed on master ECR when master ECR is downloading a program data. (xxx: a slave ECR number, ####: program number, nn: block number)
xxx X -## nn	Displayed on master ECR when master ECR is collecting X/Z-report. (xxx: a slave ECR number, ##: report number, nn: block number)
-irc comm-nn	Displayed when a slave ECR is in IRC communication. (nn : receiving or transmitting block number)
--irc BUSY--	Displayed on master ECR when a slave ECR is in IRC communication or when the communication line is being used by another ECR for slip printer transmission, etc.
xxx Z1-## E1	Displayed on master ECR when the slave ECR (xxx) is processing a transaction or when a transaction is closed but some compulsory conditions still remain (e.g. slip print compulsory) while the master is taking IRC Z-report.
xxx Z1-## E2	Displayed on master ECR when the power is 'off' or the cable being disconnected on the slave ECR (xxx) while the master is taking IRC Z-report.

POWER OFF (AC CORD DISCONNECTED) / BUSY / COMMUNICATION ERROR AT SLAVE ECR

For an X-report data, the master ECR prints consolidated X report skipping power off or busy slave ECR. See the IRC status which is printed at the end of the report for non-consolidated slave ECRs.

When collecting a Z-report data and one or more of the slave ECRs are not ready, the master ECR displays the slave ECR status as shown above (IRC busy, E1, E2). Re-attempt to collect the slave's report or skip it.

TTL 5 key for re-attempt	In order to include an ECR's data on the Z-report, close the transaction in process in that particular slave, or turn its power on and then press **TTL 5** key on the master ECR.
CL key for skip	If you do not wish an ECR's data on the report, press the CL key and the master will skip that slave ECR. Master resumes data collection for the next ECR in the system.

POWER OFF (AC CORD DISCONNECTED) AT MASTER ECR

If the power fails when collecting X-report data, the master prints consolidated X report when the power returns. See the IRC status which is printed at the end of the report for non-consolidated slave ECRs.

If the power fails when collecting Z-report data, the master ECR displays the machine number of the slave ECR when the power returns. Press **CL** key to skip or press **TTL 5** key to re-attempt.